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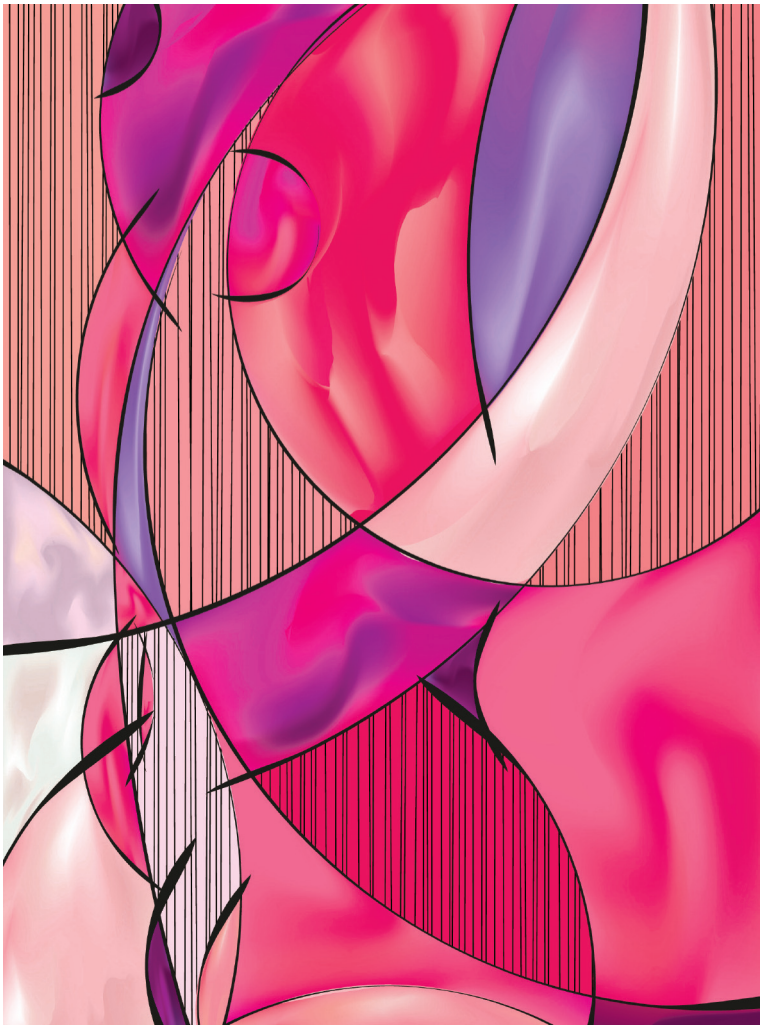
IN THIS SUPPLEMENT
ABSTRACT BOOK OF THE ADVANCED BREAST CANCER FIFTH INTERNATIONAL CONSENSUS CONFERENCE (ABC5)

THE BREAST

An Associate Journal of the Australasian Society for Breast Disease
Affiliated with the European Society of Breast Cancer Specialists
Official Journal of the Breast Centres Network



Publication of this Abstract Book is supported by the European School of Oncology.
Abstract Book of the Advanced Breast Cancer Fifth International Consensus Conference (ABC5)

European School of Oncology
Learning to care

ESMO GOOD SCIENCE BETTER MEDICINE BEST PRACTICE

ABC5
Bridging the Gap

Advanced Breast Cancer

Fifth ESO-ESMO International Consensus Conference

14-16 November 2019
Lisbon, Portugal

Coordinating Chair:
F. Cardoso, PT

Chairs:
E.P. Winer, US - L. Norton, US - A. Costa, IT/CH

Co-Chairs:
G. Curigliano, IT - S.A. Mertz, US

Scientific Committee Members:
K. Gelmon, CA - F. Penault-Llorca, FR
E. Senkus, PL - C. Thomssen, DE

The ABC5 guidelines will be developed by ESO and ESMO

ESMO GOOD SCIENCE BETTER MEDICINE BEST PRACTICE

The ABC5 conference and guidelines are endorsed by

EUSOMA European Society of Breast Cancer Specialists
FLAM FEDERACIÓN LATINOAMERICANA DE MASTOLOGIA

The ABC5 conference is held under the auspices of

OECI Organisation of European Cancer Institutes
uicc global cancer control

with support from

BCRF BREAST CANCER RESEARCH FOUNDATION
susan g. komen.

with official representatives of

ASCO AMERICAN SOCIETY OF CLINICAL ONCOLOGY

and is endorsed by

AGO ARBEITSGEMEINSCHAFT GYNÄKOLOGISCHE ONKOLOGIE E.V.
esso Endorsed
ESTRO European SocieTy for Radiotherapy & Oncology
SIOG INTERNATIONAL SOCIETY OF GERIATRIC ONCOLOGY

ABC5 will be followed by the meeting of the ABC GlobAlliance An ESO initiative on 16-17 November 2019

ABSTRACT BOOK

THE BREAST

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THE BREAST

Advanced Breast Cancer Fifth International Consensus Conference (ABC5)

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The Breast: Aims and Scope

The Breast is an international, multidisciplinary journal for researchers and clinicians, which focuses on translational and clinical research for the advancement of breast cancer prevention, diagnosis and treatment of all stages. The Editors welcome the submission of original research articles, systematic reviews, and viewpoint/commentary and debate articles, and correspondence on all areas of pre-malignant and malignant breast disease, including:

- Epidemiology and prevention
- Translational research, encompassing the use of new technologies, molecular biology, genetics and pathology
- Screening, early diagnosis, follow-up and response assessment: use of imaging, nuclear medicine and other technologies
- Medical oncology
- Radiation oncology
- Breast surgery
- Psycho-oncology
- Quality of life
- Survivorship
- Supportive care
- Palliative and end-of-life care
- Advocacy
- Breast Nursing
- Breast Units management and organization of breast care, including health economics

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Welcome

Dear Colleagues,

The International Consensus Conference for Advanced Breast Cancer (ABC) has established itself as the major international conference for advanced Breast Cancer. Its primary goal is the development of international consensus guidelines for the management of ABC patients. These guidelines are based on the most up-to-date evidence and can be used to guide treatment decision making in many different health care settings globally, with the necessary adaptations due to different access to care.

The last meeting, which took place in Lisbon, Portugal in November 2017, brought together 1.300 participants from 89 countries around the world, including health professionals, patient advocates and journalists.

We believe that health professionals working closely together with patient advocates and with the strong support of the media can raise awareness about the needs and challenges faced by this traditionally underserved and forgotten group of patients. ABC also aims to identify research priorities based on the most important areas of unmet needs, analyse and discuss available data to provide the most accurate management recommendations, as well as influence policy makers and funding bodies and ultimately improve standards of care, survival and quality of life. Research and education, with accurate usage of available knowledge, throughout the world, are key to achieve these goals.

The creation of the ABC Global Alliance, also provides a platform for the development of important projects, aiming to strongly impact on the survival and quality of life of advanced breast cancer patients.

ABC guidelines are jointly developed by ESO (European School of Oncology) and ESMO (European Society of Medical Oncology) and guidelines or ABC conferences have been endorsed and supported by several other international oncology organizations such as EUSOMA (European Society of Breast Cancer Specialists), ESTRO European Society for Radiotherapy and Oncology), ESGO (European Society of Gynaecological Oncology), UICC (Union International Contre le Cancer), SIS (Senologic International Society)/ISS (International School of Senology), FLAM (Federacion Latino-Americana de Mastologia), OECI (Organization of European Cancer Institutes), EONS (European Oncology Nursing Society), ESSO (European Society of Surgical Oncology), AGO (Arbeitsgemeinschaft Gynäkologische Onkologie e. V.), SIOG (International Society of Geriatric Oncology), Susan G. Komen® and BCRF (Breast Cancer Research Foundation) and have official representation from ASCO.

It is therefore with great enthusiasm that we invite you to attend the Advanced Breast Cancer Fifth ESO-ESMO International Consensus Conference (ABC5) that will take place in Lisbon, Portugal, on 14-16 November 2019. Together we will improve the lives of all brave ABC patients.

Fatima Cardoso
Coordinating Chair

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General Information

Venue

ABC5 will be held at the CCL - Centro de Congressos de Lisboa, Praça das Industrias, Lisbon, Portugal.

Official Carrier

ESO is grateful to TAP Portugal, a Star Alliance member, who supported the Conference as the Official Carrier and offered discounted fares to the participants.

Acknowledgements

ESO wishes to express its appreciation and gratitude to the ABC5 Chairs for their support and vision in establishing this conference, all faculty members and panellists for their commitment and contribution to the programme, to The Breast and CancerWorld for their partnership in this initiative.

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3	Viagens Abreu SA Av. 25 de Abril, 2 2799-556 Linda-a-Velha, Portugal	ph +351 21 415 6120 fx +351 21 415 6383

No smoking policy

ABC5 is a tobacco-free event. All participants are kindly asked to respect the no-smoking policy.

CME Accreditation and Certificates

Participants will be entitled to receive a certificate of attendance at the close of the Conference by completing the online evaluation questionnaire.

The event has been accredited by the European Accreditation Council for Continuing Medical Education (EACCME) to provide the following CME activity for medical specialists. The EACCME is an institution of the European Union of Medical Specialists (UEMS). The evaluation of the event has been performed by the Accreditation Council of Oncology in Europe (ACOE) that acknowledged the quality of the scientific programme and its educational value.

The event is designated for a maximum of **15 European CME credits (ECMEC).** Through an agreement between UEMS and the American Medical Association, physicians may convert EACCME credits to an equivalent number of AMA PRA Category 1 Credits™.

Furthermore, the conference has been accredited with **18 ESMO-MORA category 1 points.**

Third Party Media Policy

The policy applies to all activities related to the news media during or in connection with ABC5 and is posted at https://bit.ly/2InrxbB

The aim is to ensure that information distributed to the journalists is accurate and is issued at the correct times, complying with any embargoes that may be in place.

The policy applies to media events that are organised at the ABC5 venue and off-site, and all third parties are requested to adhere.

Abstract Book

This book includes abstracts submitted by the invited speakers and those proposed by the participants that were accepted for oral presentation, poster presentation or publication.

Abstracts which are part of the media coverage will be embargoed as indicated. These abstracts will thereafter be published on the ABC5 website when the embargo is lifted.

Abstracts were received for seven categories:

- Advanced breast cancer – Basic and translational research
- Advanced breast cancer – Nursing and advocacy
- Advanced breast cancer – Clinical issues: Medical oncology
- Advanced breast cancer – Clinical issues: Radiation oncology
- Advanced breast cancer – Clinical issues: Surgical oncology
- Advanced breast cancer – Clinical issues: Supportive and palliative care
- Advanced breast cancer – Clinical issues: Other topics

A prefix has been added to the abstract number to identify the type of presentation or acceptance:

IN: Abstracts submitted by the invited speakers
OR: Abstracts accepted for oral presentations
BP: Abstracts accepted as best poster presentations
PO: Abstracts accepted for poster presentations
PR: Abstracts accepted for inclusion in the abstract book (not presented at the conference)

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High Patronage

COM O ALTO PATROCÍNIO DE SUA EXCELÊNCIA
UNDER THE HIGH PATRONAGE OF THE PRESIDENT OF THE PORTUGUESE REPUBLIC

O Presidente da República

The European School of Oncology is proud to announce that the Conference is held under the High Patronage of His Excellency the President of the Portuguese Republic and is honoured that His Excellency the President of the Portuguese Republic, Prof. Marcelo Rebelo de Sousa, will welcome ABC5 participants to Lisbon and open the Conference.

Endorsement and Auspices

ESO is pleased to announce that also the ABC5 guidelines will be developed jointly by ESO and ESMO and published in *Annals of Oncology*.

Furthermore, the ABC5 conference is endorsed by

held with support from

under the auspices of

with official representatives of

and is CME accredited by

and

The ABC5 guidelines are endorsed by

The Breast 48S2 (2019) S5

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Sponsors

ESO wishes to express its appreciation for the following sponsors for having granted their participation and support to ABC5.

Travel grants, support to the conference and to the patient advocacy activities

Exhibiting organisations and companies

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Award

The ABC Award is aimed at recognising a researcher, physician, nurse or patient advocate who has made an outstanding and impacting contribution in the field of advanced breast cancer throughout his/her career.

The **2019 ABC Award** - in recognition of her foresight in understanding the importance of advanced breast cancer and for launching a Global Alliance against it - will be assigned to **Fatima Cardoso** during the Award Ceremony on Thursday, 14 November.

The **2017 ABC Award –**in recognition of her work and dedication to advocacy specifically to advanced breast cancer patients - was assigned to **Musa Mayer.**

The **2015 ABC Award** - in recognition of his work on metastatic breast cancer, especially improving the management of metastatic cancer to bone, resulting in preservation and improvement in quality of life of patients worldwide - was assigned to **Robert E. Coleman.**

The **2013 ABC Award** - in recognition of his work on discovering fundamental, clinically-relevant biological and molecular mechanisms for metastases including site specificity, latency, self-seeding and the role of the microenvironment in colonization and drug resistance - was assigned to **Joan Massagué**.

ABC5 Scientific Committee

ABC5 Scientific Committee

Coordinating chair

Fatima Cardoso, Breast Unit, Champalimaud Clinical Center, Lisbon, PT

Chairs

Eric P. Winer, Breast Oncology Center, Dana-Farber Cancer Institute, Boston, US
Larry Norton, Breast Cancer Programs, Memorial Sloan-Kettering Cancer Centre, New York, US
Alberto Costa, CEO, European School of Oncology, Milan, IT and Bellinzona, CH

Co-Chairs

Giuseppe Curigliano, European Institute of Oncology, Milan, IT
Shirley A. Mertz, Metastatic Breast Cancer Network US, Inverness, US

Scientific Committee Members

Karen Gelmon, BC Cancer Agency, Department of Medical Oncology, Vancouver, CA
Frédérique Penault-Llorca, Jean Perrin Centre, Comprehensive Cancer Centre, Clermont Ferrand, FR
Christoph Thomssen, Clinic for Gynaecology, Martin-Luther-Universität, Klinikum Kröllwitz, Halle (Saale), DE
Elzbieta Senkus, Medical University of Gdansk, Gdansk, PL

Faculty members

Matti S. Aapro, Breast Center, Clinique de Genolier, Genolier, CH
Bertha Aguilar Lopez, Salvati, Mexico City, MX
Fabrice André, Department of Medical Oncology, Gustave Roussy Institute, Villejuif, FR
Carlos H. Barrios, Department of Medicine, PUCRS School of Medicine, Porto Alegre, BR
Jonas Bergh, IT Department of Oncology-Pathology, Karolinska Institute, Stockholm, SE
Gouri S. Bhattacharyya, Department of Medical Oncology, Salt Lake City Medical Centre, Kolkata, IN
Laura Biganzoli, Department of Medical Oncology, Sandro Pitigliani Oncology Centre, Prato, IT
Christine B. Boers-Doets, Department of Medical Strategy, CancerMed, Wormer, NL and Department of Adverse Event Research & Valorisation, Impaqtt Foundation, Wormer, NL
Fran Boyle, The Pam McLean Centre, Royal North Shore Hospital, St. Leonards, AU
Anna Cabanes, Susan G. Komen, Washington, US
Maria João Cardoso, Breast Unit, Champalimaud Cancer Center and Mama Help, Lisbon, PT
Lisa A. Carey, Department of Hematology and Oncology, UNC Lineberger Comprehensive Cancer Center, North Carolina, US
Javier Cortés, IOB Institute of Oncology, Madrid and Barcelona, ES
Carsten Denkert, Department of Pathology, Marburg University, Marburg, DE
Nagi S. El Saghir, NK Basile Cancer Institute, American University of Beirut Medical Center, Beirut, LB
Mona Elzayat, Europa Donna, The European Breast Cancer Coalition, Vienna AT
Alexandru Eniu, Department of Breast Tumors, Cancer Institute "I. Chiricuta", Cluj-Napoca, RO
Lesley Fallowfield, Sussex Health Outcomes Research & Education in Cancer, Brighton & Sussex Medical School, University of Sussex, Brighton, UK
Prudence A. Francis, Division of Cancer Medicine, Peter MacCallum Cancer Centre, Melbourne, AU
Joseph Gligorov, Breast Cancer Expert Center, University Cancer Institute APHP.6 - Sorbonne University, Paris, FR
Uwe Güth, Breast Centre, Zurich, CH

Renate Haidinger, Brustkrebs Deutschland e.V., Munich, DE
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Sabine Linn, The Netherlands Cancer Institute, Amsterdam, NL
Paul Mainwaring, Department of Oncology, Canossa Hospital, Oxley, AU
Claire Myerson, Patient Advocate, Oxford, UK
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Shani Paluch-Shimon, Oncology Institute, Shaare Zedek Medical Centre, Jerusalem, IL
Kirsten Pilatti, Breast Cancer Network Australia, Camberwell, AU
Aleix Prat, Hospital Clínic of Barcelona, University of Barcelona, Barcelona, ES
Gabriella Pravettoni, European Institute of Oncology, Milan, IT
Catherine Priestley, Breast Cancer Care & Breast Cancer Now, London, UK
Joana Ribeiro, Breast Unit, Champalimaud Clinical Center, Lisbon, PT
Shawna Rich-Ginsberg, Rethink Breast Cancer, Toronto, CA
Carla Ripamonti, Supportive Care Unit, Fondazione IRCCS Istituto Nazionale Tumori , Milan, IT
Hope S. Rugo, Breast Oncology and Clinical Trials Education, UCSF Helen Diller Family Comprehensive Cancer Center, San Francisco, US
Peter Schmid, Centre for Experimental Cancer Medicine, Barts Cancer Institute, London, UK
George W. Sledge, Division of Oncology, Stanford School of Medicine, Stanford, US
Luzia Travado, Breast Unit, Champalimaud Clinical Center, Lisbon, PT
Andrew Tutt, Division of Breast Cancer Research and Breast Cancer Now Toby Robins Research Centre, Institute of Cancer Research and Guy's Hospital King's College London, UK
Daniel A. Vorobiof, Belong. Life, New York, US
Theresa Wiseman, The Royal Marsden Hospital NHS Foundation Trust, London, UK
Binghe Xu, Department of Medical Oncology, Chinese Academy of Medical Sciences & Peking Union Medical College, Beijing, CN

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Breast Cancer Patient Advocacy Programme

Representatives of breast cancer patient advocacy groups are warmly invited to participate in ABC5 and actively contribute to the scientific programme and consensus sessions.

Furthermore, in collaboration with several leading breast cancer patient advocacy groups worldwide, specific additional patient advocacy have been scheduled.

Breast Cancer Patient Advocacy Committee

Coordinator: Fatima Cardoso, ABC Global Alliance, Lisbon, PT

Bertha Aguilar Lopez, Salvati, Mexico City, MX
Anna Cabanes, Susan G. Komen, Washington, US
Maria João Cardoso, Mama Help Association, Lisbon, PT
Renate Haidinger, Brustkrebs Deutschland e.V., Munich, DE
Ranjit Kaur, Breast Cancer Welfare Association Malaysia, Petaling Jaya, MY
Shirley A. Mertz, Metastatic Breast Cancer Network US, Inverness, US
Gertrude Nakigudde, Uganda Women's Cancer Support Organisation, Kampala, UG
Kirsten Pilatti, Breast Cancer Network Australia, Camberwell, AU
Catherine Priestley, Breast Cancer Care & Breast Cancer Now, London, UK
Shawna Rich-Ginsberg, Rethink Breast Cancer, Toronto, CA

Breast Cancer Patient Advocacy Sessions (see pages s11 to s13 for full session details)

Thursday, 14 November 2019

9:00-10:30 Audit.II	**The do's and don'ts of complementary medicine**	Chairs: Anna Cabanes, US and Renater Haidinger, DE
11:00-12:30 Audit. II	**Having difficult conversations: Empowering patients and their families with tools and strategies of communication at end of life**	Chairs: Ranjit Kaur, MY, Shawna Rich-Ginsberg, CA
18:00-19:30 Audit. II	**When cancer becomes visible – living with skin metastases from breast cancer**	Chairs: Bertha Aguilar Lopez, MX, Maria João Cardoso, PT and Gertrude Nakigudde, UG

Friday, 15 November 2019

18:00-19:30 Audit. II	**Improving your communication skills: the floor is yours**	Chairs: Shirley A. Mertz, US, Kirsten Pilatti, AU

Saturday, 16 November 2019

11:00-11:15 Audit. I	Report from ABC Patient Advocacy Committee	Shirley A. Mertz, US

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ABC Global Alliance

The ABC Global Alliance, established by ESO, is a multi-stakeholder platform for all those interested in collaborating in common projects relating to advanced breast cancer.
Launched during the World Cancer Congress in Paris in 2016 the Alliance is the continuation of the work developed through the ABC International Consensus Conference, responsible for the ESO-ESMO international consensus guidelines for the management of advanced breast cancer and its advocacy efforts.
The Alliance goal is to improve and extend the lives of women and men living with ABC in all countries worldwide, to fight for a cure, to raise awareness of ABC and lobby worldwide for the improvement of the lives of ABC patients.
The ABC Global Alliance invites all interested ABC5 participants to join its meeting that will take place immediately after ABC5 on 16-17 November 2019.

MEETING AGENDA

Saturday, 16 November 2019

14:30-14:45	Welcome, meeting overview and introduction	Fatima Cardoso, PT
14:45-15:10	The ABC Global Alliance: overview of the initiatives implemented	Fatima Cardoso, PT
15:10-15:45	Discussion and suggestions for 2020	Moderators: Ranjit Kaur, MY and Kirsten Pilatti, AU
15:45-16:00	Introduction to the Sunday workshops	Fatima Cardoso, PT and Lesley Fallowfield, UK
16:00-16:30	Coffee break	
16:30-17:00	Executive Committee 2019–2021 Election	Fatima Cardoso, PT, Shirley A. Mertz, US and Renate Haidinger, DE
17:00	Meeting close	

Sunday, 17 November 2019

08:30-08:40	Welcome and introduction	Fatima Cardoso, PT and Lesley Fallowfield, UK
08:40-12:15	Workshop (4 groups)	Moderators: Fran Boyle, AU, Lesley Fallowfield, UK, Belinda E. Kiely, AU and Luzia Travado, PT
10:30-11:00	Coffee break	
12.15-13.00	Report back from Groups	
13:00	Meeting close	Fatima Cardoso, PT

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Programme

Thursday, 14 November 2019

9:00-10:30	**Patient advocacy session: The do's and don'ts of complementary medicine**	Chairs: Anna Cabanes, US and Renate Haidinger, DE
	Complementary medicine: what helps and what doesn't	Maria João Cardoso, PT
	New drugs, different side effect: can complementary medicine help?	Christoph Thomssen, DE
	The danger of being lost between two worlds Panel discussion and Q&A Moderated by the chairs	Renate Haidinger, DE
9:00-10:30	Sponsored satellite symposium **1 (details are available on page S15)**	
10:30-11:00	Coffee break	
11:00-12:30	**Patient advocacy session: Having difficult conversations: Empowering patients and their families with tools and strategies of communication at end of life**	Chairs: Ranjit Kaur, MY, Catherine Priestley, UK Shawna Rich-Ginsberg, CA
	Accessing palliative care – Why the resistance?	Matti S. Aapro, CH
	Navigating end of life conversations with family members and children	Luzia Travado, PT
	Supporting decision making and advance care planning – A case study of two patients	2 ABC patients
	Bereavement support in the MBC community	Shawna Rich-Ginsberg, CA
	Discussion	
11:00-12:30	**Sponsored satellite symposium 2 (details are available on page S15)**	
12:30-13:30	Lunch	
13:30-14:20	**Opening session**	Chairs: Fatima Cardoso, PT and Larry Norton, US
13:30-13:50	Welcome to Lisbon	Prof. Marcelo Rebelo de Sousa, President of the Portuguese Republic
13:50-14:20	Keynote lecture: A good doctor treats the disease; a great doctor treats the patient with the disease. How not to lose the joy of living in the fear of dying [abstract IN01]	Claire Myerson, UK
14:20-14:50	**ABC5 Award and lecture: Making a difference for advanced breast cancer patients**	Chair: Larry Norton, US, Awardee: Fatima Cardoso, PT
14:50-16:25	**Meaningful clinical benefit: How to define, evaluate and communicate**	Chairs: Bella Kaufman, IL and Shirley A. Mertz, US
14:50-15:05	Applying the ESMO-MBCS to ABC systemic therapies	Shani Paluch-Shimon, IL
15:05-15:20	Optimal endpoints for ABC clinical trials: can we aim for more? [abstract IN03]	Nadia Harbeck, DE
15:20-15:35	Optimizing clinical trial designs in ABC: reaching relevant clinical benefit	Eric P. Winer, US
15:35-15:50	Estimating and communicating survival times for each ABC patient [abstract IN05)	Belinda E. Kiely, AU
15:50-16:05	The role of big data and real-world data [abstract IN06]	George W. Sledge, US
16:05-16:25	Panel Discussion	All

16:25-16:55	Coffee break	
16:55-18:00	**Discussing the hardest issues**	Chairs: Anna Cabanes, US and Renate Haidinger, DE
16:55-17:10	When to stop and who decides? [abstract IN07]	Gabriella Pravettoni, IT
17:10-17:25	Suicide and assisted suicide in ABC patients	Uwe Güth, CH
17:25-17:40	Optimal end of life care [abstract IN09]	Carla Ripamonti, IT
17.40-18:00	Panel discussion: how to support the terminally ill and family	All
18:00-19:30	**Patient advocacy session: When cancer becomes visible – living with skin metastases from breast cancer**	Chairs: Bertha Aguilar Lopez, MX, Maria João Cardoso, PT and Gertrude Nakigudde, UG
	Skin Metastases: the extension of the problem	Maria-Joao Cardoso, PT
	Do skin metastases have a different biology?	Joana Ribeiro, PT
	Skin directed therapy: Electrochemotherapy, is it a real option?	Giuseppe Curigliano, IT
	Skin directed therapy: Radiotherapy and topical therapy	Birgitte V. Offersen, DK
	Taking care of the malignant wound – what should be considered?	Christine B. Boers-Doets, NL
	Panel discussion and Q & A	Moderated by the chairs
18:00-19:30	**Sponsored satellite symposium Sponsored satellite symposium 3 (details are available on page S16)**	
19:30	Welcome cocktail	
Friday, 15 November 2019		
8:30-9:40	**Understanding and applying biology knowledge**	Chairs: Gertrude Nakigudde, UG and Daniel A. Vorobiof, US
8:30-8:45	Next generation sequencing for clinical decisions: friend or foe [abstract IN10]	Fabrice André, FR
8:45-9:00	Is lobular ABC a separate entity? [abstract IN11]	Sabine Linn, NL
9:00-9:15	De novo vs. recurrent ABC [abstract IN12]	Prudence A. Francis, AU
9:15-9:30	Biomarkers for new approaches: what have we been doing wrong? [abstract IN13]	Aleix Prat, ES
9:30-9:40	Discussion	
9:40-10:15	Best abstract presentations	Chairs: Alberto Costa, IT/CH and Renate Haidinger, DE
9:40-9:50	Femama strategies to ensure HER2+ breast cancer treatments in Brazil [abstract OR36]	M. Caleffi, BR
9:50-10:00	T-DM1 efficacy and activity in HER2-positive metastatic breast cancer patients progressing after frontline taxane plus pertuzumab and trastuzumab: an italian multicenter observational study of the Gruppo Italiano Mammella (GIM) study group. [abstract OR65]	B. Conte, IT
10:00-10:10	A targeted survey of belong.life advanced breast cancer (ABC) patients (PTS), focusing on patient's reported outcomes (PROS), real world evidence (RWE) and insights in reducing the burden of financial toxicity (FT) [abstract OR108].	D. Vorobiof, US
10:10-10:15	Questions and Answers	
10:15-10:35	Coffee break	
10:35-11:30	**Latest news: Triple negative ABC**	Chairs: Kirsten Pilatti, AU and Binghe Xu, CN
10:35-10:50	Standards of care and optimal options [abstract IN14]	Hope S. Rugo, US
10:50-11:05	New targets, new drugs [abstract IN15]	Andrew Tutt, UK
11:05-11:20	Biology and resistance [abstract IN16]	Giuseppe Curigliano, IT
11:20-11:30	Discussion	
11:30-12:30	**Managing side effects and difficult symptoms**	Chairs: Jonas Bergh, SE and Renate Haidinger, DE
11:30-11:45	Overcoming global hurdles in pain management: from morphine shortage to opioid abuse [abstract IN17]	Matti S. Aapro, CH

11:45-12:00	Gynecological and sexual symptoms: the silent suffering [abstract IN18]	Christoph Thomssen, DE
12:00-12:15	Fatigue and cachexia: from biology to solutions [abstract IN19]	Carlos H. Barrios, BR
12:15-12: 30	Discussion	
12:30-13:30	Lunch and **poster session** - Documentary film: The Champions	
13:30-14:25	**Latest news: Luminal ABC**	Chairs: Bertha Aguilar Lopez, Mx and Nagi S. El Saghir, LB
13:30-13:45	Standards of care and optimal options [abstract IN20]	Joseph Gligorov, FR
13:45-14:00	New targets, new drugs	Peter Schmid, UK
14:00-14:15	Biology and resistance [abstract IN22]	Carsten Denkert, DE
14:15-14:25	Discussion	
14:25-15:35	**Specific sites of metastases**	Chairs: Alexandru Eniu, RO and Sung-Bae Kim, KR
14:25-14:40	Update on systemic therapy of brain metastases [abstract IN23]	Nancy U. Lin, US
14:40-14:55	Leptomeningeal disease [abstract IN24]	Laura Biganzoli, IT
14:55-15:10	The role of new RT techniques for metastases treatment [abstract IN25]	Birgitte V. Offersen, DK
15:25-15:35	Discussion	
15:35-16:00	Coffee break	
16:00-17:00	**Latest news: HER2+ ABC**	Chairs: Ranjit Kaur, MY and Silvia Neciosup, PE
16:00-16:15	Standards of care and optimal options [abstract IN26]	Lisa A. Carey, US
16:15-16:30	New targets, new drugs [abstracts IN27]	Javier Cortés, ES
16:30-16:45	Biology and resistance [abstract IN28]	Frédérique Penault-Llorca, FR
16:45-17:00	Discussion	
17:00-18:00	**Improving monitoring of efficacy and toxicity**	Chairs: Olivia Pagani, CH and Shawna Rich-Ginsberg, CA
17:00-17:15	Implementing PROMs in clinical research and clinical practice [abstract IN29]	Lesley Fallowfield, UK
17:15-17:30	Optimal imaging techniques for bone only disease [abstract IN30]	Frédéric E. Lecouvet, BE
17:30-17:45	The role of liquid biopsies [abstract IN31]	Paul Mainwaring, AU
17:45-18:00	Discussion	
18:00-19:30	**Patient advocacy session: Improving your communication skills: the floor is yours**	Chairs: Shirley A. Mertz, US, Kirsten Pilatti, AU
	Doctors need to believe in miracles too: ensuring you understand therapeutic aims of treatment recommendations	Lesley Fallowfield, UK
	Building communication skills in health professionals – the role that advocates can play	Fran Boyle, AU
	The power of storytelling in advocating for change 3 case studies	Shirley Mertz, US Kirsten Pilatti, AU
	Q&A session	
18:00-19:30 Audit. I	**Sponsored satellite symposium 4 (details are available on page S16)**	

Saturday, 16 November 2019

8:30-10:30 Audit. I	**Consensus session (part I)**	ABC5 Chairs, Scientific Committee Members and Panellists
10:30-11:00	Coffee break	
11:00-11:15 Audit. I	**Report from ABC Patient Advocacy Committee**	Shirley A. Mertz, US
11:15-12:45 Audit. I	**Consensus session (part II)**	ABC5 Chairs, Scientific Committee Members and Panellists
12:45-13:00 Audit. I	Close	

A/V Recording during the Conference is prohibited.

Consensus Panellists

Matti S. Aapro, CH
Fabrice André, FR
Carlos H. Barrios, BR
Jonas Bergh, SE
Gouri S. Bhattacharyya, IN
Laura Biganzoli, IT
Fatima Cardoso, PT
Maria João Cardoso, PT
Lisa A. Carey, US
Javier Cortés, ES
Alberto Costa, IT/CH
Giuseppe Curigliano, IT
Nagi S. El Saghir, LB
Mona Elzayet, AT
Alexandru Eniu, RO
Lesley Fallowfield, UK
Prudence A. Francis, AU
Karen Gelmon, CA
Joseph Gligorov, FR
Renate Haidinger, DE
Nadia Harbeck, DE
Xichun Hu, CN
Bella Kaufman, IL
Ranjit Kaur, MY
Belinda E. Kiely, AU
Sung-Bae Kim, KR
Nancy U. Lin, US
Shirley A. Mertz, US
Silvia Neciosup, PE
Larry Norton, US
Birgitte V. Offersen, DK
Shinji Ohno, JP
Olivia Pagani, CH
Shani Paluch-Shimon, IL
Frédérique Penault-Llorca, FR
Aleix Prat, ES
Hope S. Rugo, US
Elzbieta Senkus, PL
George W. Sledge, US
Christoph Thomssen, DE
Daniel A. Vorobiof, US
Theresa Wiseman, UK
Eric P. Winer, US
Binghe Xu, CN

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Sponsored satellite symposia

Thursday, 14 November

9:00-10:30	Sponsored satellite symposium 1 **TouchIME Oncology** **Are we moving towards true optimization of CDK4/6 inhibition in high-risk patients with HR+/HER2- advanced breast cancer?**	
9:00	Introduction and welcome	Chair. Patrick Neven, BE
9:10	How can we select the most appropriate CDK4/6 inhibitor and treatment sequencing in patients with HR+/HER2- ABC?	Shaheenah Dawood, AE, Rupert Bartsch, AT
9:35	How different are the AE profiles for the CDK4/6 inhibitors and what impact do they have on monitoring and adherence?	Patrick Neven, BE
10:00	How might upcoming guidelines be updated in light of recent data?	Patrick Neven, BE, Shaheenah Dawood, AE, Rupert Bartsch, AT
10:25	Summary and close	Patrick Neven, BE

Symposium faculty

Rupert Bartsch, Medical University of Vienna, Vienna, AT
Shaheenah Dawood, Dubai Medical College, Dubai, AE
Patrick Neven, Universitair Ziekenhuis Leuven, Leuven, BE

11:00-12:30	Sponsored satellite symposium 2 **Novartis Oncology** **Progress in HR+/HER2- advanced breast cancer: hopes and challenges in clinical practice**	
11:00	Welcome	Luis Costa, PT
11:05	Panel I. Progress in HR+ HER2- aBC: Translating cancer biology knowledge into benefit for patients - Presentation - Interactive panel discussion	 Richard de Boer, AU Richard de Boer, AU, Luis Costa, PT, Peter Fasching, DE, Mark Tuthill, UK and Andrew Wardley, UK
11:35	Panel II. Progress in HR+ HER2- aBC: the evolving role of biomarkers - Presentation - Interactive panel discussion	 P. Fasching, DE Richard de Boer, AU, Luis Costa, PT, Peter Fasching, DE, Mark Tuthill, UK and Andrew Wardley, UK
12:05	Progress in HR+ HER2- aBC: how will the future look like? - Interactive panel discussion	 Richard de Boer, AU, Luis Costa, PT, Peter Fasching, DE, Mark Tuthill, UK and Andrew Wardley, UK
12:25	Closing remarks	Luis Costa, PT

Symposium faculty

Luis Costa, Centro Hospitalar de Lisboa Norte - Hospital de Santa Maria, Lisbon, PT
Richard De Boer, Peter MacCallum Cancer Centre, Melbourne, AU
Peter Fasching, University Hospital Erlangen, DE
Mark Tuthill, Churchill Hospital, Oxford, UK
Andrew Wardley, The Christie Hospital, Manchester, UK

18:00-19:30 Sponsored satellite symposium 3

Daiichi Sankyo Europe
HER2 targeted therapies in metastatic Breast Cancer - Current Status and Emerging Options

Chair: Chris Twelves, UK

18:00	Introduction + objectives of the meeting	Chris Twelves, UK
18:10	Current challenges in HER2 targeted therapies – where do we need further improvement? - The clinician's perspective - The pathologist's perspective	 Sofia Braga, PT Giuseppe Viale, IT
18:40	How can new technologies fill the medical gap in HER driven metastatic Breast Cancer?	Peter Fasching, DE
18:55	Clinical study programs to optimize personalized medicine in Her2 metastatic breast cancer	Jean-Yves Pierga, FR
19:10	Panel discussion (All and moderated by Chris Twelves, UK)	
19:25	Key take away and closing	Chris Twelves, UK

Symposium faculty

Sofia Braga, Minho University, Braga, PT
Peter Fasching, University Erlangen, Erlangen, DE
Jean-Yves Pierga, Institut Curie, Paris, FR
Chris Twelves, Clinical Cancer Pharmacology and Oncology, Leeds, UK
Giuseppe Viale, University of Milan, Milan, IT

Friday, 15 November 2019

18:00-19:30 Sponsored satellite symposium 5

Pierre Fabre
Treatment options and recent advances in HER2-positive breast cancer

Chairs: Hans-Joachim Lück, DE and Cristina Saura, ES

18:00	Introductory comments	Hans-Joachim Lück, DE
18:05	State of the art of early-stage therapy in HER2-positive breast cancer	John Crown, IE
18:25	What can we learn from recent trials?	Edith Perez, US
18:45	The evolving landscape of treatment of advanced HER2-positive disease	Cristina Saura, ES
19:05	Optimizing the risks and benefits of treatments	Barbara Pistilli, FR
19:25	Summary and Conclusions	Cristina Saura, ES

Symposium faculty

John Crown, St Vincent's University Hospital, Dublin, IE
Hans-Joachim Lück, Gynäkologisch Onkologische Schwerpunktpraxis, Hannover, DE
Edith Perez, Mayo Clinic, Jacksonville, USA
Barbara Pistilli, Institut Gustave Roussy, Villejuif, FR
Cristina Saura, Instituto de Oncologia Vall d'Hebron, Barcelona, ES

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PO35 Nurses and patients interactive module for better treatment outcome. Manju Chaturvedi, IN
BP37 Benefit assessment of new Metastatic Breast Cancer (MBC) treatments – a multi-stakeholder approach. Gordon Jenn, CA
BP38 How a web-based financial resources navigation tool can help patients manage the financial toxicity of breast cancer. Gordon Jenn, CA
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PO46 Communication approach for better palliative care in rural India - BGO based approach. Mandal Nabanita, IN
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PO49 Recommendations to improve the lived experience of breast cancer patients in Canada. Ammendolea Cathy, CA
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PO55 Comparative Analysis of Natural Killer Cell Activity between Advanced Breast Cancer and Early Breast Cancer. Kim Jae Il, KR
PO56 The role of the allelic polymorphism of the CCR5 gene in locally advanced breast cancer of various molecular subtypes and its effect on the effectiveness of neoadjuvant chemotherapy. Verovkina Nataliia, UK
PO57 Liquid and Tissue Biopsy of female dogs with Breast Cancer: Identification of Mutations in mTOR. Zuccari Debora, BR
PO58 Clinical Impact of Breast Cancer Stem Cells in Metastatic Breast Cancer Patients. Elbaiomy Mohamed, EG
PO59 Early and advanced tumors can use two different strategies based on initial and profound abnormalities in microRNA pattern to acquire doxorubicin resistance. Halytskiy Volodymyr, UK
PO60 Assessment of the clinical features of inflammatory breast cancer patients in Puerto Rico reveals distinct receptor status. Martinez-Montemayor Michelle, PR
PO61 A New Era in Breast Cancer Therapy: Tumor Targeting by conditioned medium from human amniotic membrane. Ameneh Jafari, IR
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PO73 Real-world outcomes of patients with advanced breast cancer treated with palbociclib: a multicenter retrospective cohort study in Japan. Odan Nina, JP
PO74 A Plain-Language Summary of the CompLEEment-1 Study: Ribociclib and Letrozole as First line Therapy in a Study of 3,246 People With Advanced Breast Cancer. Warner Ellen, CA
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PO76 The incidence of QT interval prolongation in patients with hormone receptor-positive, HER2-negative metastatic breast cancer treated with ribociclib combined with endocrine therapy in a real-world setting. Kurbacher Christian Martin, DE
PO77 New insights into how first recurrence at multiple metastatic sites influences survival of patients with hormone receptor-positive, HER2-negative breast cancer: a multicenter study of 271 recurrent metastatic patients. Yamamura Jun, JP
PO78 Palbociclib in combination with endocrine therapy in patients with metastatic breast cancer: severe early hematological toxicity predictive factors. Vazquez Léa, FR
PO79 18-NaF PET-CT and Metastatic Breast Cancer in an Irish Centre. O'Sullivan Hazel, IR
PO80 HER2-Positive Stage IV Male Breast Cancer: Prevalence and Survival Data from the United States. Sohaib Ahmed, EG
PO81 Men with breast cancer – survival and prognostic factors in the metastatic setting in Bulgaria. Konsoulova Assia, BG
PO82 Molecular Profile of Cases with Stage IV Breast Cancer in the United States (2010-2015), Gouda Mohamed, EG
PO83 Real-world survival data of palbociclib in advanced and metastatic breast cancer: a multicenter experience in Lebanon. Ghoche Ahmad, LB
PO84 The importance of HER2-ECD expression check for selection of anti-HER2 regimen for better outcome of HER2+ advanced and recurrent breast cancer. Miwa Noriko, JP

PO85 CDK inhibitors plus letrozole in first-line treatment HR-positive/HER2-negative Advanced Breast Cancer (ABC) women with visceral disease: time to turn page? Gallerani Elisa, IT
PO86 Eribulin use and palliative care referral rates in metastatic breast cancer: Kent Oncology Centre experience. Ryan Claire, UK
PO87 Men with breast cancer – role of endocrine treatment for disease progression. Konsoulova Assia, BG
PO88 Real world data of cyclin-dependent kinase 4/6 inhibitors in a European and Latin-american Luminal advanced breast cancer population. Analysis of two centers. Samamé Pérez-Vargas Juan Carlos, PE
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PO95 Treating bones in metastatic breast cancer. Campôa Elsa, PT
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Invited Abstracts

IN1

A GOOD DOCTOR TREATS THE DISEASE, A GREAT DOCTOR TREATS THE PATIENT WITH THE DISEASE. HOW NOT TO LOSE THE JOY OF LIVING IN THE FEAR OF DYING

Claire Myerson
Patient advocate, Oxford, UK

It was Sir William Osler, Regius Professor of Medicine in Oxford in the early 1900s, who said "A good physician treats the disease, a great physician treats the patient with the disease". In other words, to be a great doctor it is vital to understand your patient, not just the disease.

I was diagnosed with HER2+ primary breast cancer in 2013 and then, in 2015, with Advanced Breast Cancer (ABC). Here I share my story and the context of my illness within my life, which is how most patients experience ABC. ABC patients need much more than medical care; they need good information sharing and crucially they need understanding and help with psychosocial challenges. For me, the challenges of living with ABC have always been only 10% clinical but 90% emotional and practical.

I will review the impact that ABC has had on me and how this is different from my primary breast cancer diagnosis. I will discuss my attitude towards the cancer, my psychological wellbeing and the impact on my loved ones, my body image & confidence levels, my support network, financial pressures and the search for meaning and purpose in my life, now that I am no longer able to work. I will also highlight the processes of coping with uncertainty, acceptance of my prognosis and thinking about my end of life choices as well as the freedom, opportunity and joy of living that has come with this diagnosis.

In conclusion:

- To be a great doctor you must understand your patient, not just the disease.
- To be a great doctor you must ask the right questions, and keep asking. Living with ABC is not linear, any progression can feel like a completely new diagnosis and survivorship means patients will need support all the way to the end.
- Do this well and you not only help the patient cope better with their treatment, but you also play your part in helping them not to lose the joy of living in the fear of dying.

IN3

OPTIMAL ENDPOINTS FOR ABC CLINCAL TRIALS: CAN WE AIM FOR MORE?

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Clinical trials, particularly phase III trials aiming at drug approval, are important for demonstrating drug efficacy, safety and impact on quality of life. For registrational purposes, effcacy is usually the key outcome parameter assuming manegeable toxicity. In addition, health technology assessments evaluating reimbursement potential in indviual health systems focus on incremental benefits vs. existing therapy options and thus also on saftey and quality of life. In advanced breast cancer, progression-free survival has become the most frequently used primary endpoint as it assesses impact of one therapeutic step only and is usually asscoiated with feasible patient numbers and trial duration times. Even though overall survival is considered the ultimate patient-relevant outcome parameter, trials aiming at an OS improvement may require substantial patient numbers and long observation times in advanced breast cancer as post-progression times can be quite long and several therapy steps are used in sequence. Prolonging the way to registration for individual drugs may disadvantage patients. Therefore, research efforts need to be focussed regarding surrogate endpoints according to tumor subtype and drug class. Moreover, as long as drugs can only be registered based on efficiacy, meaningful QoL endpoints will not become primary or even secondary endpoints.

With any given endpoint not just statistical significance but in particular the magnitude of the clinical benefit neeeds to be considered. Therefore, systems like the ESMO Magnitude of Clinical benefit scale are an appropriate instrument to rate new drugs and take into account more than just one primary endpoint. Nevertheless, they need to be adapted to individual tumor types as e.g. the ability to obtain an improvement in quality of life may not be possible in patients in early ABC therapy lines with good initial QoL.

In conclusion, we should aim for trial endpoints that are most meaningful for patients but also within reach of feasible clinical trial designs and recruitment periods. Optimal endpoints in ABC may thus differ according to tumor biology and the expected course of disease, mechanism of action of the evaluated drug as well as its intended use.

IN5

ESTIMATING AND COMMUNICATING SURVIVAL TIMES FOR PATIENTS WITH METASTATIC BREAST CANCER

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Abstract IN5 is under embargo until Friday 15 November, and included in the full, online abstract book at the end of the conference.

IN6

THE ROLE OF BIG DATA AND REAL WORLD DATA

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Modern therapies for breast cancer have benefitted enormously from well-curated clinicals trials, particularly "gold standard" Phase III trials. However, such trials have significant limitations: only a tiny percentage of breast cancer patients go onto such trials, and these patients are hardly typical, given explicit and subtle exclusions that occur. Resulting treatment recommendations may be inapplicable to significant portions of the breast cancer population, and routinely fail to answer many questions faced daily in the clinic. The increasing availability of large datasets (derived from the "omics" revolution, electronic health records, and the internet of things), and the ability to cross-link such datasets, offers new opportunities for exploring important breast cancer questions. The potential and problems associated with big data and real world data will be explored in this talk.

IN7

WHEN TO STOP AND WHO DECIDES?

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Patients with advanced breast cancer may receive many lines of palliative chemotherapy before treatment is stopped. Ongoing chemotherapy late in life increases the risk of late or absent discussions of palliative care that could help in symptom relief (Bergqvist and Strang, 2017). There is a thin line between benefits and risks with late lines of chemotherapy, where a possible (not sure) extension in life expectancy goes at the same pace with a reduced quality of life (Zhang et al., 2009).

Conversation between patients and physicians about End of Life (EOL) is still not so common. Studies showed that two thirds of advanced cancer patients reported no discussion with physicians about this topic (Zhang et al., 2009), 20% of patients received chemotherapy in the last 3 weeks of life and one third of advanced cancer patients receiving chemotherapy had unrealistic expectations and believed the intent of treatment was curative (Matsuyama et al., 2006). On top of that, intensive interventions are associated with higher costs that not necessarily are followed by better outcomes at the EOL (Zhang et al., 2009). On the contrary, some studies demonstrated that in the final weeks of life, QOL increased with hospice care (Wright et al., 2008).

The majority of patients prefer to participate to some degree in treatment decision making, while a substantial minority (13–35%) prefer to delegate the decision. Patients' decisional role also depends on the treatment aim, preferring to be more decisive when their QOL is more at risk (Brom et al., 2017). Beside a minority of patients not willing to receive bad news, HPs tend to withhold information and tend to be reticent to discuss EOL issues because of a difficulty in dealing with such a topic. In this perspective, however, HPs preclude patients from choosing the best option for themselves and their family.

In this line, it is not possible to define a priori when to stop active treatment. For sure, the person in charge of the decision should not be the HP alone. The shared decision making model between patients, physician and family is at present the best model that allows the patients to elicit their preference and inform the physician about the best solution for them. In this perspective, HPs' preferences and fears must be displaced in order to create the space for the patients' preferences and fears. New tools and training programmes need to be implemented to help HPs deal with patients' variability (Gorini et al., 2016; Lucchiari et al., 2010) in deciding if and when talk about stopping the active treatment and activate a palliative care.

This will end up as a win-win solution, where all the stakeholders has a gain rather than a loss.

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IN9

OPTIMAL END OF LIFE CARE

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The optimal end of life care starts with the diagnosis of breast cancer. The diagnosis of cancer can be experienced by the patient as a diagnosis of death, of separation from affections, from work, from one's dreams and goals. As a complete change of one's life, from leaving unresolved situations to becoming dependent on others and a weight for them. For this reason the information and the communication must take place in an honest, direct and compassionate way throughout the course of the disease and in particular in the advanced stage. Thus to favor the awareness that gradually and often with fluctuations will accompany the patient and the family until the end of life.

The patient will guide our communication with her. The caregivers involvement and education will become an integral part of patients' care at every stage of the disease expecially in the final one. The goal of the end of life care is the patient's comfort from a physical, emotional, social, spiritual and existential point of view. Physical and emotional symptoms should be monitored and

treated through a frequent evaluation. Pain, fatigue, insomnia and drowsiness, delirium, dyspnea and respiratory secretions, fear and anxiety are among the most frequent symptoms and must be treated according to suitable drugs and routes of administration for the patient. Non essential medications must be discontinued. The symptoms can become refractory. Often the patient is not able to communicate verbally symptoms and needs. End-of-life care also includes emotional, mental and spiritual therapy. Emotional suffering can prevail over physical suffering. The topic of several consensus-based recommendations is the attention to patient's spirituality. The end-of-life symptoms of metastatic breast cancer vary from person to person. The reason why comfort measures as where to receive care, religious or spiritual requests, economical issues, the preparation of children and even funeral preferences have to be discussed in advance so to make the last days of life more comfortable and to ensure that the caregiver can honor the patient's wishes. It is necessary to create a comfortable environment, because the care setting- home, hospice, nursing home- becomes the place in which the patient has more comfort and together with the family receives adequate assistance for the all needs. The optimal end of life care is the result of a course of care that starts from the diagnosis of cancer and continues during all phases of the disease through an empathic medical-patient-family relationship. A multidisciplinary clinical work between oncologist and other professional figures including nurses, psychologists, psychitrists, palliative care physicians, social workers, counselors, mental health professionals and religious or spiritual advisors is paramount.

IN10

NEXT GENERATION SEQUENCING FOR CLINICAL DECISIONS: FRIEND OR FOE

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Next generation sequencing allows assessing large number of nucleotides in a very short time and at low cost. Next generation sequencing can either sequence large number of position in the genome in a relative low number of times, or sequence few specific regions a very large number of times (ultradeep). There are multiple reasons for using next generation sequencing. The original reason to use it was logistics. Indeed, by implementing a single assay for all cancer patients, we would save cost and simplify logistics by avoinding to order multiplicity of tests, and by ordering test that are positive in very few number of patients. As illustration, NTRK fusions are very rare in common breast cancers (<0.1%), so it's unlikely an oncologist would order a test for this alteration. Nevertheless, if a NGS is ordered to detect multiple alterations, this alteration will be included. There are currently nine genomic alterations that are ranked level I (evidence of benefit) or II (objective response with matched therapy) according to ESCAT in breast cancer. They overall cover around 50% of patients. This suggests that, in places where NGS is cheap, there is a benefit of running such technology. The issue with multigene sequencing is the missuse of alterations classified rank 3 or 4. In these specific cases, there is no evidence that matching a therapy to an alteration ranked 3 or 4 benefits to the patient. The other reason to use multigene sequencing is to detect mutational processes that could lead to therapeutic intervention. As illustration, microsatellite instability can be detected by multigene panels and can lead to treatment with anti-PD1. There are several other illustrations that did not reach the evidene of clinical utility yet, like tumor mutational burden, homologous recombination deficiency.

IN11

IS LOBULAR ADVANCED BREAST CANCER A SEPARATE ENTITY?

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Invasive lobular breast cancer (ILC) is a morphological diagnosis, of which the classical subtype is based on the typical, discohesive growth pattern found at microscopy (Arpino, 2004). It comprises around 10–15% of all breast cancers, and is generally diagnosed at a later stage, because it is a difficult subtype to detect with palpation and to detect on imaging (Arpino, 2004). This is due to its tendency to grow along anatomic borders (Arpino, 2004). The prognosis of ILC seems slightly better in the first 7–10 years of follow-up, while it tends to metastasize somewhat more often than adenocarcinoma of no special type (A-NST) in the second decade of follow-up (Pestalozzi, 2008). The median survival after first recurrence is 22 months for ILC (Arpino, 2004). ILC has a characteristic metastasis pattern, with a higher tendency to metastasize to the gastrointestinal tract, peritoneum and the ovaries than A-NST (Arpino, 2004).

Molecularly, ILC is characterized by loss of functional E-cadherin encoded by the CDH1 gene (Berx, 2009). Truncating mutations in the CDH1 gene in combination with loss of heterozygosity (16q22.1) is the predominant mechanism observed (Berx, 2009; Desmedt, 2016). Mammary tissue-specific cdh1 loss in mice is not tolerated and results in early apoptosis of luminal cells, suggesting that a prosurvival tumorigenic event, such as loss of p53, or PTEN inactivation, has to precede E-cadherin loss to facilitate breast tumor formation (Derksen, 2011; reviewed in Bruner, 2018).

Loss of E-cadherin results in Rock-dependent actomyosin activation, and subsequent p120 cytosolic accumulation, NF2/Merlin derepression and GFR hypersensitivity (Bruner, 2018). The latter results in signalling through the phospatidyl-inositol 3 kinase (PI3K) pathway and/or MAPK pathway. In addition, p-AKT inhibits FOXO3, resulting in repression of BMF and BIM, both proapoptotic molecules (reviewed in Bruner, 2018).

While ILC might be characterized as an "actin" disease, and molecularly clearly differs from A-NST, patients with ILC are treated like patients with A-NST (reviewed in Bruner, 2018).

Recent studies have shed new light on the molecular make-up of ILC (Ciriello et al., 2015; Michaut et al., 2015; Desmedt et al., 2016). Based on these and other reports a number of putative novel treatment options have been proposed. For instance, a combination of a PIK3CA inhibitor in combination with a BH3-mimetic, such as venetoclax, to promote apoptosis, might be worth exploring in ILCs with functional E-cadherin loss and a PIK3CA mutation. A few trials, currently running, are focusing on ILCs (e.g. NCT03620643; NCT03147040). These rationally designed proof-of-concept trials have initiated an new era for the treatment of ILCs. The understanding that ILC is a distinct breast cancer entity that requires different therapies will hopefully lead to better outcomes for ILC patients in the near future.

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IN12

DE NOVO VS RECURRENCE ADVANCED BREAST CANCER

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In the USA, an increase in the proportion of patients with metastatic breast cancer who were diagnosed with de novo metastatic disease has been observed over time, as compared with the proportion who have recurrence of breast cancer after prior stage I-III disease [1]. In 2013, it was estimated that approximately one in four patients diagnosed in USA with metastatic breast cancer had de novo metastatic disease. When estimating median overall survival (OS) for patients diagnosed with metastatic breast cancer, prior therapy for breast cancer (ie. de novo vs. recurrent disease) is a relevant factor. In an analysis from MD Anderson Cancer Centre, among women diagnosed with metastatic breast cancer from 1992 to 2007, median overall survival was 39.2 months for those diagnosed with de novo metastatic disease vs. 27.2 months for those with relapsed disease ($P < 0.0001$) [2]. Patients who present with de novo metastatic breast cancer are systemic therapy naïve and in this patient group improvements in median OS have been observed in recent years, particularly for those with HER2 positive metastatic breast cancer for whom targeted therapies are available. There is potential for a small minority of patients with de novo HER2 positive metastatic breast cancer to enter a long term possibly permanent remission.
By contrast, as adjuvant systemic therapies have become more effective over time, patients who now recur with metastatic disease have increasingly been exposed to anthracycline and taxane chemotherapy, aromatase inhibitors and/or extended adjuvant endocrine therapy beyond the 5-year mark, and HER2-targeted (neo)adjuvant therapies in relevant patients. These patients with relapsed metastatic disease have not seen the same improvements in median OS over time, and particularly for those with triple negative disease who recur with a short disease-free interval, survival may be devastatingly short. Outcomes of treatments tested in clinical trials in patients with de novo metastatic breast cancer might be more representative of the potential for those therapies to be beneficial in the adjuvant setting, as compared with the outcomes observed in patients treated for recurrent breast cancer.

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IN13

BIOMARKERS FOR NEW APPROACHES: WHAT HAVE WE BEEN DOING WRONG?

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In the last decade, despite all the impressive knowledge learned regarding the biology of breast cancer, few molecular biomarkers have reached the clinic. The reasons behind this fact are multiple. Before we analyze the different reasons, one important question to ask is "what is needed in 2019 for a biomarker to reach the clinic". First, the biomarker must be analytically validated; in other words, the assay must be reproducible, robust, precise and accurate. This level of analytical validation is not usually met by old biomarkers being used today in the clinic such as estrogen receptor, progesterone receptor and HER2. Second, the biomarker must be able to divide a population of patients with breast cancer into different prognostic or treatment benefit groups (clinical validity). This is definitely the area where most biomarkers feel more comfortable. Indeed, daily we see in pubmed publications of promising biomarkers after analyzing tumor samples from retrospective series. Even in some cases, the level of evidence of the association of the biomarker with survival outcome or treatment benefit has reached Level 1; however, the biomarker is not clinically useful. This is the case of tumor-infiltrating lymphocytes (TILs) in triple-negative disease; its prognostic value is clear across many studies and has reached Level 1 evidence; however, the biomarker is not clinically useful today to make a treatment decision versus another. In addition, this biomarker is not analytically validated. To reach the highest level of clinical evidence, the biomarker has to be tested retrospectively in 2 or more studies using tumor samples from a prospective clinical, and with a pre-planned statistical analysis. Another option is to test the biomarker prospectively in a single trial designed specifically to test the clinical value of the biomarker. Therefore, for a biomarker to reach clinical utility, it must be tested and validated in a similar manner as drugs are being tested and validated. The few recent biomarkers that have reached clinical utility in advanced breast cancer (i.e. PIK3CA and BRCA1/2 mutations and PDL1 expression) have followed this premise. However, unless there is a drug behind which works in a particular subpopulation, prospective trials, powered for biomarker testing, are rare despite the importance of the clinical question that the trial might be able to answer. A main explanation of this situation is that these trials represent a major undeavour from a resource perspective and academic funding is not readily available. In my opinion, unless we continue to pursue the validation of biomarkers in a similar manner as we do for drugs, we will not be able to make important advances in precision medicine.

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IN14

TRIPLE NEGATIVE BREAST CANCER: CURRENT STANDARDS AND OPTIMAL MANAGEMENT

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Triple negative breast cancer (TNBC), defined by the absense of receptors and an aggressive clinical behavior, is a therapeutic challenge due to to the limitation in effective treatment options. Serial chemotherapy, alone or in combination, was the only treatment option until early 2019, when the U.S. FDA approved the combination of nab-paclitaxel with the checkpoint inhibitor atezolizumab as first-line therapy for metastatic TNBC. This was based on results of the IMPASSION 130 trial, which demonstrated improved overall survival in the sub-population of patients whose tumors demonstrated PD-L1 expression on the immune cell (IC) infiltrate using the SP-142 antibody. PD-L1 IC positivity of >1% was seen in only 41% of patients, and all were required >12 months from adjuvant taxane.
Several studies have demonstrated a reduction in both expression of PD-L1 and tumor infiltrating lymphocytes as tumors progress from early to late stage disease, and with progression of metastases. Current trials are evaluating combinations of targeted agents, and several studies will report results of check-point inhibitors plus neoadjuvant chemotherapy in the next year.
For the majority of patients, chemotherapy remains the mainstay of therapy. Treatment is based on extent of disease and response to prior therapy. There is at least some degree of biologic subtype

heterogeneity in TNBC, with expression of the androgen receptor in a small subset. In these patients, some benefit has been demonstrated with androgen antagonists. Additional studies are required to further understand this treatment option.
Median survival in PD-L1 IC+ patients with nab-paclitaxel/atezolizumab was just 25 months, compared to 18 months in patients receiving nab-paclitaxel. Clearly additional treatment options are needed for patients with advanced TNBC.

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IN15

TRIPLE NEGATIVE BREAST CANCER-NEW TARGETS, NEW DRUGS

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In my presentation I will discuss some recent updates around the biological drivers of subtypes within clinically determined triple negative breast cancer, and potential associated therapeutic related vulnerabilities. I will describe some of the current emerging targets and therapeutic approaches, which are reaching the clinic in the setting of clinical trials. I will also describe some areas emergent of preclinical data that will likely lead to clinical trial activities in the near future. I will particularly address areas relevant to the targeting of abnormalities in the DNA damage response and genome instability including, the role of ATR inhibitors, other s-phase checkpoint kinase inhibitors, and specific approaches to targeting mitosis in tumour cells. I will also discuss data relating to the development of AKT inhibitor as targeted therapy in triple negative breast cancer including, the preclinical rationale and emerging concept trial data in metastatic disease.

IN16

TRIPLE NEGATIVE ADVANCED BREAST CANCER: BIOLOGY AND RESISTANCE

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Major effort has been devoted over the past decade to classify triple negative breast cancer (TNBC) into distinct clinical and molecular subtypes that could guide treatment decisions. Characterization of genomic, transcriptomic, proteomic, epigenomic, and microenvironmental alterations has expanded our knowledge of TNBC. With evolving transcriptomic studies, the heterogeneity of TNBC has been further dissected. Lehmann and colleagues analyzed 21 public microarray data sets filtered for TNBC based on ESR1, PGR, and ERBB2 expression and identified seven clusters within TNBC: basal-like 1 (BL1), basal-like 2 (BL2), immunomodulatory (IM), mesenchymal (M), mesenchymal-stem-like (MSL), luminal androgen receptor (LAR), and an unstable cluster (UNS; ref. 1). These subtypes are characterized by distinct patterns of molecular alterations, in terms of RNA expression, somatic mutations, and copy-number variations, that tend to cluster in genes implicated in specific pathways. In a follow-up study, by performing histologic assessment and laser microdissection prior to RNA isolation and gene-expression analysis, Lehmann and colleagues confirmed that the presence of stromal cells in tumor specimens—such as infiltrating lymphocytes and tumor-associated mesenchymal cells—influences the definition of the IM and MSL subtypes, respectively (2). This led to a revised classification, TNBCtype4, into four stable transcriptional subtypes (BL1, BL2, M, and LAR) that significantly differ not only in prognosis and response to chemotherapy, but also in initial presentation and patterns of recurrence, where regional nodal involvement is more common in LAR TNBC and metastatic recurrences have tropism to the lung in M subtypes and to the bone in LAR subtypes. In my presentation I will provide the rational to target TNBC biological heterogeneity and I will review mechanisms of resistance across subtypes.

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IN17

CATCH-22: FROM MORPHINE SHORTAGE TO OPIOID ABUSE

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Already at the first ABC meeting in 2011 the consensus panel stated that access to effective pain treatment (including morphine, which is inexpensive) is necessary for all patients in need of pain relief (1). Yet, in Europe and all over the world there is inadequate pain treatment (2) and the recent ESMO guidelines (3) may be difficult to follow in those countries where the majortiy of the patients experiencing cancer pain live.
By contrast one has to discuss the opioid epidemic which has resulted from myriad causes and will not be solved by any simple solution. A paper of Jones and colleagues is a nice summary (4). Consequent to a staggering increase in opioid-related deaths in the USA, various governmental inputs and stakeholder strategies have been proposed and implemented with varying success. Recent trends in opioid-related data demonstrate an almost fourfold increase in overdose deaths from 1999 to 2008. Legislation includes now the limitation of numbers of opioids postsurgery. Stricter prescribing practices and prescription monitoring programs have been instituted. A recent position from ASCO which aims at adequate protection of cancer patients has been commented in a review paper and will be presented (5).

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IN18

GYNECOLOGICAL AND SEXUAL SYMPTOMS: THE SILENT SUFFERING

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Treatment in metastatic breast cancer requires or causes reduced estrogen function or deprivation; patients often suffer from postmenopausal symptoms as hot flushes, night sweats, sleep disturbances, fatigue, arthralgia, cognitive impairment, depression, vaginal dryness, as well as impaired sexual functioning (e.g. loss of sexual desire, dyspareunia). As at first recurrence, 1 in 4 patients is younger than 50 years, also contraception and fertility should be considered. In patients older than 50 years, treatment associated side effects may interfere with symptoms of natural menopause.
Hormone replacement is inconsistent with the endocrine character of the disease and should not be used to treat complaints like hot flushes and night sweats; as alternatives venlafaxine, gabapentine, clonidine are recommended. A recent study demonstrated effective control of hot flushes with oxybutynine. Sleep disturbances may be treated with melatonine. There is no convincing evidence that phytotherapeutic drugs may improve postmenopausal symptoms. Mind-body interventions, physical training, and cognitive behavioral therapy should be recommended as effective non-pharmacological treatment options for postmenopausal symptoms.
With regard to impairment of sexual life, a recent retrospective study showed that breast cancer patients are more affected than patients with ovarian cancer and healthy controls, respectively (sexually active 46% vs. 57% vs. 76%). Frequently, decreased or no interest in sexual activity and physical problems were reported. In a multivariate analysis of sexual functioning, a significant association to less satisfaction and more discomfort was demonstrated. However, no association to experiencing orgasms, health status, quality of life and global health status was observed. Estrogen deprivation (GnRH-agonists, aromatase inhibitors) seems to have more impact than tamoxifen. Data showed that particularly with regard to impaired sexual life, even in an anonymous setting patients are often too shamefaced to report about their problems.
The issue of sexual life should be addressed openly and patients should be educated about possible misconceptions and options to help. Vaginal dryness and soreness can easily be treated with lubricants or, better, low-dose estriol containing therapies. Also, local testosterone application can be helpful. In case of pain for other reasons (bone metastases), sufficient analgesia is mandatory. In premenopausal patients, contraception has to be discussed; however, modes of contraception were never tested in women with metastatic breast cancer; only hormone-free contraceptives can be recommended.
In summary, gynecological and sexual symptoms are immanent challenges in most patients with metastatic breast cancer considering the postmenopausal age as well as the endocrine effects of cancer treatment. Active verbalization of gynecological and sexual symptoms in an adequate and trusting atmosphere is a mandatory part of follow-up visits also in women with metastatic breast cancer. Standardized instruments (questionnaires) may help to assess the grade of impairment. Oncologists should be aware of therapeutic options and should actively provide specific support and treatment to their patients.

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IN19

FATIGUE AND CACHEXIA: FROM BIOLOGY TO SOLUTIONS

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Fatigue and Cachexia are challenging and distressing side effects of cancer and its treatments.
Cancer-related fatigue (CRF) is a complex and multifactorial with physical and mental manifestations including generalized weakness, decreased concentration, diminished motivation to engage in usual activities and emotional lability. CRF causes impairment in all aspects of quality of life and may be a risk factor for reduced survival. One of the barriers to the assessment and management of fatigue may be a lack of information about underlying mechanisms, risk factors and effective treatments.
Cancer-associated cachexia is a condition characterized by reduction of body weight with specific losses of adipose tissue and skeletal muscle. Cachexia is caused by a complex combination of decreased food intake and metabolic alterations, increased energy expenditure, excess catabolism and inflammation. Cachexia is associated with a variety of functional, metabolic and immune disorders in addition to aggravated toxicity of cancer therapy. Patients experience decreased quality of life and impairment of physical, emotional and social well-being.
The measurement of fatigue is difficult due to the complex nature of potential underlying mechanisms, including mood disturbances, sleep disorders, anemia, cachexia, metabolic diseases, fever, pain and tumor burden. Additionally, chemotherapy, endocrine therapy and targeted therapies are associated with treatment-induced fatigue. Inflammation is a pivotal biological pathway for CRF with studies reporting an association between markers of inflammation and fatigue before, during and after treatment. Additionally, there is considerable variability not explained by disease- or treatment-related characteristics, indicating that host factors play a significant

role in the development and maintenance of fatigue. In fact, prospective studies are identifying genetic, biological, psychosocial and behavioral risk factors associated with the development of CRF. Considering the multi-factorial nature of CRF, a variety of interventions have been examined in clinical studies, including physical activity, psychosocial, mind-body and pharmacological therapies. Some of these approaches have shown beneficial effects and can be recommended.

On the other hand, consensus is needed regarding definition and specific criteria for cancer-associated cachexia. Multiple discordant definitions are used in the literature. In breast cancer cachexia can be seen in the context of treatment refractory metastatic disease. Variation in the prevalence of cachexia might also be partly due to genetic factors as studies suggest that inherited genetic variations could explain interindividual variations in susceptibility. Currently, no effective medical intervention reverses cachexia and there are no approved drug therapies. Adequate nutritional support remains mainstay of cachexia therapy. Optimal conditions for decreasing the catabolic state and enhancing anabolic potential are currently under study. A variety of drugs targeting cell injury and inflammation are being evaluated in randomized clinical trials including selective androgen receptor and ghrelin receptor agonists, nutritional supplements, anti-IL1 antibodies, among others.

Fatigue and Cachexia remain significant unmet needs for cancer patients.

IN20

STANDARDS OF CARE AND OPTIMAL OPTIONS FOR LUMINAL ABC

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The totality of international consensus conferences and guidelines advocate the use of endocrine treatment as a prefered treatment option for ER-positive and HER2-negative advanced breast cancers (ABC), apart from visceral crisis situations [1–3]. The choice of the endocrine treatment has long been based on that of the various available treatment families (Selective Estrogen Receptor Modulators, Aromatase inhibitors or more recently Selective Estrogen Receptot Down-regulator), and mainly the prior exposure or not to one of them. Several historical trials have compared the impact of different strategies using these treatments in ABC. Since no convincing survival superiority data had demonstrated the value of a particular strategy, these different endocrine treatments alone were considered as equivalent options, the place of which depended on previously received endocrine treatments.

The mechanisms of resistance to endocrine treatments are various and overcoming them represent an important challenge in clinic [4]. If biological and preclinical data exist on resistance mechanisms, the development of therapeutic trials aimed to reverse this resistance, first of all made it necessary to define it clinically [5]. Accordingly, several trials have then been designed to answer the question of different anti-hormonal strategies (endocrine treatment in combination with targeted treatment) according to clinical and biological parameters of endocrine sensitivity and resistance in ABC.

Everolimus was the first targeted treatment demonstrating clinical interest in combination with different endocrine therapies, including more recently fulvestrant [5]. However, the benefit/safety ratio of everolimus-endocrine treatment makes these combinations more an option than a standard.

CDK4/6 inhibitors have been explored in endocrine naïve, sensitive and resistant ABC and in indirect comparison, the benefit of adding a CDK4/6 inhibitor to antihormonal treatment is very close for a similar clinical situation, regardless of the inhibitor [7]. Importantly, the benefit seems equal in non menopausal women in case of addition of a GnRH analogue [8], and in general more in endocrine sensitive population with a potential benefit on OS [9]. Moreover, high levels of ORR are likely to broaden the interest of endocrine treatment including CDK4/6 inhibitors in ABC with important visceral metastases [10]. However, despite these results making the integration of CDK4/6 inhibitors a standard in ABC, we still do not know what is the ideal position of these associations (first or further line of endocrine treatments).

Mutations of ESR1 and PIK3CA are common and a recognized mechanism of resistance to certain endocrine treatments [11]. Although the mutation search for ESR1 does not yet impact treatment strategy, that of PIK3CA is an essential predictive parameter of response to PIK3CA selective alpha inhibitors. However, the tolerance profile of this therapeutic class in association with fulvestrant, positions it rather after progression under CDK4/6 inhbitors [12].

Finally, the integration of new approaches like immune-checkpoint treatments in combination with chemotherapy or endocrine treatments are still under investigation in luminal ABCs.

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IN22

ADVANCED LUMINAL BREAST CANCER – PATHOLOGY, BIOLOGY AND RESISTANCE

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Advanced luminal breast cancer is a heterogenous disease that is driven by multiple biological pathways including hormone-receptor signaling, proliferation, cell cycle and immunological parameters. The heterogeneity of the disease is increased by different resistance mechanisms that act together to adapt the advanced and metastatic tumor to the current therapeutic situation. These resistance mechanisms are controled by therapeutic pressure during previous lines of therapy, leading to increased heterogneity and molecular complexity.
The presentation will summarize the pathology of advanced luminal BC, including different molecular subtypes of tumore, the heterogeneity of hormone receptor and HER2 expression as well as therapy induced alterations, including hormone receptor mutations. In addition, results from large-scale profiling initiatives investigating new molecular targets will be summarized. The increased knowledge on resistance mechanisms is be relevant for current and future clinical management.

IN23

CONTEMPORARY MANAGEMENT OF BREAST CANCER BRAIN METASTASES

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Brain metastases affect up to half of patients with advanced, HER2-positive breast cancer, 25–46% of patients with advanced triple-negative breast cancer, and 10–15% of patients with estrogen receptor (ER) positive/HER2-negative breast cancer. Local therapies such as surgical resection (for patients presenting with single or highly symptomatic metastases), stereotactic radiosurgery (SRS), and whole brain radiotherapy (WBRT) have long been considered standard-of-care. For patients with limited CNS involvement, SRS is generally preferred over WBRT. Patients with more diffuse CNS involvement should generally be treated with WBRT at initial diagnosis. However, over the past decade, several systemic approaches have emerged as promising alternatives to localized approaches. For patients with HER2-positive breast cancer, clinically relevant central nervous system (CNS) activity has been reported with lapatinib-capecitabine, trastuzumab-emtansine, and neratinib-capecitabine. The combination of trastuzumab-capecitabine-tucatinib is currently under evaluation in a randomized phase 3 study which includes (but is not restricted to) patients with active brain metastases. For ER-positive breast cancer, preliminary evidence of CNS activity has been reported with the CDK4/6 inhibitor abemaciclib, and older case reports have indicated activity of standard hormonal therapies such as tamoxifen and aromatase inhibitors. Several commercially available chemotherapy agents also have reported activity, either in small, single-arm prospective studies, or case series, and these include capecitabine, platinum salts, and anthracyclines. Several novel approaches are now under investigation in clinical trials. In patients with HER2-positive breast cancer, new combinations of HER2-directed therapies with other targeted agents (for example, targeting the PI3K pathway) are being tested in clinical trials. Across tumor subtypes, there is great interest in testing cytotoxic chemotherapy agents with an improved profile either with respect to penetration across an intact blood brain barrier, and/or other characteristics that lead to longer residence time in brain metastases. Examples of novel chemotherapeutic agents under investigation are ANG1005, tesetaxel, and NKTR-102, among others. Finally, there are early efforts to determine whether the potential benefits of immune checkpoint inhibitors can be extended to breast cancer patients with brain metastases.

IN24

LEPTOMENINGEAL DISEASE: AN UPDATE

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Leptomeningeal carcinomatosis (LC) is an uncommon but devastating complication of metastatic breast cancer, arising in approximately 5% of all advanced breast cancer cases. It is defined by the infiltration of neoplastic disease into the leptomeningeal space(s) (dura mater, subarachnoid and/or pia mater), with approximately 60% of diagnosed cases demonstrating positive tumour cytology in cerebral spinal fluid (CSF). Most cases of LC occur in isolation of other central nervous system (CNS) involvement; only a minority of patients with LC present with concurrent parenchymal brain metastases. Lobular breast cancer is known to have a particular proclivity for subsequent development of LC. Similarly, particular molecular subtypes of breast cancer appear to demonstrate a greater incidence of LC, with occurrences in triple-negative disease being most common. Clinically, LC may present with a subtle history of non-localising symptoms such as headache, changes in mood or behaviour, visual disturbance or nausea – and may be missed as a diagnosis if insensitive imaging provides false reassurance by way of an absence of visualised brain metastases. Alternatively, LC can manifest marked signs of mass effect (eg raised intracranial pressure, cauda equina syndrome, cranial nerve deficits, seizures), particularly if direct compression of brain parenchyma and/or ventricles, nerves or vessels occurs. Diagnostic imaging with MRI plus gadolinium, as well as lumbar puncture and subsequent examination of CSF for protein, cytology and microscopy will ascertain the diagnosis in the majority of cases, whilst also establishing a baseline upon which to measure the success of subsequent therapy.
Due the relative rarity of LC, it remains an under-studied entity, with a paucity of data available regarding its optimum management. Intrathecal or intraventricular delivery of methotrexate, whilst practiced in some centres for patients selected according to positive factors such as favourable performance status, prognosis and limited neurological deficit, remains controversial. Several studies and meta-analyses of intrathecal chemotherapy have failed to demonstrate any survival benefit associated with its use, with some conflicting data suggesting it may exert a negative influence on survival. Early-phase data suggests there may be a role for intrathecal trastuzumab in HER2-positive LC, but this is yet to be validated in larger cohorts enrolled in later-phase trials. Historically, the blood-brain barrier has precluded systemic breast cancer therapy from reaching LC, though some early data suggests newer targeted molecules, notably the CDK4/6 inhibitor abemaciclib, may have potential to penetrate the CNS and produce therapeutic effect. Localised modalities of radiotherapy should be reserved for cases wherein relief from symptomatic or impending

mass effect is required. Given the overall poor survival associated with LC, its diagnosis should serve as a signal to the clinician to discuss prognosis with their patient, and to evaluate their goals and priorities.

IN25

THE ROLE OF NEW RADIATION TECHNIQUES FOR METASTASES TREATMENT

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Breast cancer stage is pivotal when deciding therapeutic strategy, and until recently metastatic cancer was considered incurable. In 1995, Hellman and Weichselbaum proposed the hypothesis of oligometastases reflecting a state of tumour progression between purely localised and widely metastatic. This intermediate disease state may be curable with localised therapies (1). Until 2019, no randomised trials have documented improved overall survival from ablative treatment (stereotactic ablative radiotherapy (SABR) or surgery) in patients with oligometastases compared with no ablative treatment.
Remarkable results from a randomised trial have now shown that SABR in patients with controlled primary tumours and 1–5 oligometastases prolonged overall survival 13 months (28 months to 41 months), with a doubling in progression-free survival, although at the cost of more treatment related toxicity including 4.5% risk of grade 5 toxicity (2). These results strongly support an oligometastatic state of disease and indicate that patients with a limited number of metastases may be amenable to curative-intent treatment strategies. Several trials are ongoing investigating the role of SABR both for cranial and extra-cranial disease.
Stereotactic radiotherapy is also being investigated as having a sensitizing effect to augment systemic immune modulation. Radiotherapy can cause immunogenic cell death and facilitate tumour antigen presentation and stimulate T-cells turning irradiated tumour into an in-situ vaccine. However, it is very rare that radiotherapy alone can cause a systemic response at metastatic sites (abscopal effect). Immunotherapy, a series of agents designed to stimulate the immune system to generate tumor-specific immune response, is investigated in breast cancer patients in combination with radiotherapy, because it may hold potential to stimulate the immune system rejecting metastatic tumour cells. Several trials are investigating immunotherapy combined with radiotherapy in breast cancer.

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IN26

HITTING A MOVING TARGET: 2019 STANDARDS OF CARE AND TREATMENT OPTIMIZATION FOR HER2+ ABC

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In the era before HER2-targeted therapy, HER2+ ABC carried a very poor prognosis; illustrated by the 20-month survival in the control arm of the pivotal trastuzumab trial, despite a high proportion of crossover (1). This dismal outcome has been transformed by effective HER2-targeted drugs for metastatic disease beginning with trastuzumab (H), and including lapatinib (L), pertuzumab (P), and ado-trastuzumab emtansine (T-DM1). Witness to the transformation by effective therapy, in the CLEOPATRA trial, the dual therapy arm in which women received first-line taxane, trastuzumab, and pertuzumab (THP) had a median survival close to 5 years (2).
In the first-line setting studied in CLEOPATRA, THP demonstrated a 6-month improvement in progression-free survival (PFS) to 19 months, and 16-month improvement in overall survival compared with TH, making it clearly the favoured choice. More recently, among patients with HER2+ breast cancer that also expressed the estrogen receptor (ER), a similar study of aromatase inhibition, trastuzumab, and pertuzumab (AI/HP) demonstrated improved PFS by approximately 3 months over AI/H alone (3). While overall survival is not yet known, this highlights that in ER+ HER2+ tumors endocrine therapy (ET) plus dual HER2-targeting is reasonable. In truth many clinicians who start with the THP regimen only give the chemotherapy for a limited number of cycles as was done in CLEOPATRA; those with ER+ tumors ET is frequently substituted for the chemotherapy. Future studies will need to address whether some tumors benefit more from either a chemo-based or ET-based approach to HER2-targeting.
In the EMILIA trial, second-line T-D M1 outperformed the previous favoured second-line regimen, capecitabine plus lapatinib (XL), in both efficacy and toxicity (4), making it clearly the preferred regimen for this setting and moving XL to third-line. After third-line therapy there are no defined standards. Based on small trials demonstrating the value of ongoing HER2-targeting after progression, most continue anti-HER2 therapy (5, 6). The anti-HER2 drug is usually trastuzumab, since as a single agent pertuzumab is inferior and dual therapy after prior dual therapy is expensive and unproven. Trastuzumab has been combined with multiple agents including ET (7, 8), and various chemo agents, particularly vinorelbine (9), platinums and gemcitabine (10).
A unique feature of HER2+ ABC is its tendency to involve the CNS. Trastuzumab and other bulky monoclonal antibodies probably permeate the blood-brain barrier more poorly than small molecules, prompting a series of trials examining lapatinib in CNS metastatic HER2+ tumors with mixed results (11). Indirect support came from subset analyses of the phase III NEfERT-T trial in which first-line taxane plus neratinib (TN) appeared to delay and reduce time to CNS metastasis compared with TH (12). The ASCENT trial (NCT03501979), which is testing capecitabine plus trastuzumab with or without the irreversible small molecule HER2-inhibitor tucatinib, is prospectively examining this endpoint. However, in monoclonal antibody trials, the drug effect of H, P, and TDM1 did not appear to be inferior in the subset of patients with stable CNS metastases (13–15), although the OS was typically worse.
Finally, it is worth commenting that a number of tumor or microenvironmental features affect response to therapy and outcome independent of the individual drugs. These data derive primarily from neoadjuvant trials that consistently demonstrate higher response rates in the HER2-Enriched subset of clinically HER2+ disease (16–18). Similarly, primary tumors with immune activation or TILS have higher response rates (16, 19, 20) although whether this will be also seen in metastatic tissue is not clear; in CLEOPATRA the presence of TILS was associated with better OS but not with pertuzumab benefit (21). Trials of immune-checkpoint inhibitors are in progress; one small trial, PANACEA, failed to demonstrate a significant response rate of pembrolizumab added to HER2-targeted therapy in pretreated patients (22).
In the upcoming 1–2 years we will know whether novel antibody-drug conjugates such as DS8201a will improve upon T-DM1 and whether tucatinib will become a standard to incorporate into trastuzumab-based regimens particularly if the CNS is involved. In parallel, we will know whether the intrinsic molecular subtype

should be incorporated into therapeutic algorithms, and if immune-targeted therapy has a role in HER2+ ABC.

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IN27

HER2+ ABC: NEW TARGETS, NEW DRUGS

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Despite the promising initial responses to trastuzumab and pertuzumab therapy in a majority of patients with HER2+ metastatic breast cancer, the acquisition of resistance during the course of treatment is a great challenge. TDM1 and lapatinib-based therapy are two anti-HER2+ therapies widely used in the second and third-line setting with median progression-free survival times in the range of 6 to 9 months at best. That is why, new and better antiHER2 therapies are urgently needed to increase survival and to optimize quality of life.

New antibody-drug conjugates and monoclonal antibodies are being tested in the metastatic setting with promising activity. Margetuximab is an anti-HER2 Fc-optimized monoclonal antibody. The positive results from the initial phase I trial results led to the design of the randomized phase III SOPHIA trial that enrolled 536 patients with HER2-positive MBC that were randomly assigned to receive margetuximab or trastuzumab in combination with one of four chemotherapy agents (capecitabine, eribulin, gemcitabine, or vinorelbine). All study patients had previously received trastuzumab and pertuzumab, and approximately 90% had previously received T-DM1. Results showed that patients in the margetuximab arm experienced a 24% reduction in the risk of disease progression or death versus patients in the trastuzumab arm (HR = 0.76; P = 0.033) with an acceptable safety and tolerability. ZW25 is a bispecific HER2-targeted antibody against ECD2 and ECD4. Six responses out of 18 patients previously treated with pertuzumab, trastuzumab and TDM1 have been observed. DS-8201a, a new anti-HER2 antibody-drug conjugated to a topoisomerase I inhibitor, has

shown portent activity in patients with heavily pretreated disease. Two randomized phase III trials are ongoing; in the first study, patients are being randomized to receive DS-8201a vs TDM1. In the second study, heavily-pretreated and TDM1-resistant patients are receiving DS-8201 or treatment of physician's choice. Of interest, responses have also been observed in patients with low-expressing HER2 (1+ or 2+, FISH negative). New HER2-targeted tyrosine kinase inhibitors are also being developed. Among them, neratinib and tucatinib are being explored in randomized clinical trials. Of interest, tucatinib-based treatment has demonstrated interesting activity in patients with brain metastases. Pyrotinib and poziotinib are two irreversible pan-HER tyrosine kinase inhibitors with promising activity in heavily pretreated patients.
Other strategies which are being explored include immunotherapy, PI3K/AKT/mTOR signaling pathway inhibitors, anti-HER3 drugs or CDK 4/6 inhibitors.

IN28

HER2 POSITIVE BREAST CANCER – BIOLOGY AND RESISTANCE

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HER2 positive breast cancer represent 18–25% of metastatic and advanced breast cancer. More than 30 years of intensive research, in the biomarker field, to conclude that we have failed to demonstrate robust biomarker of response to anti-HER2 therapy. HER2 status itself demonstrate a strong negative predictive value, but a low positive predictive value. Despite numerous studies to identify putative predictive biomarkers, HER2 protein or gene copy numbers, truncated forms, concomitant mutations (PIK3CA), PTEN loss …, failed to predict accurately response to anti-HER2 therapy despite signals in the preclinical models.
The neoadjuvant model thus, gives us some leads. At least two different HER2 positive diseases exist depending on the expression or not of the estrogen receptor. Transcriptomic profiles identify the five PAM50 subclasses in the HER2 positive cases: as expected a majority of HER2 enriched, but also luminal A and B, basal-like and normal-like, highlighting a more complex biology than initially expected.
In the metastatic setting, one of the major challenge will be to quantify tumor heterogeneity, and putative resistance factors generated by the previous anti-HER2 therapy in adjuvant setting.
One of the paradox encountered has been the superiority of the clinical activity of monoclonal antibodies over tyrosine kinase inhibitors, despite the fact that they are weaker inhibitors of the HER2 signaling. This opened up new avenues of biomarker discovery efforts related to therapy-induced immune response as well as alternative therapeutic efforts to trigger immune response towards HER2 positive tumor cells. Thus, evaluation of TILs, PD-L1 and immune context will be of utmost importance to improve treatment tailoring and built associations strategies.

IN29

IMPLEMENTING PROMS IN CLINICAL RESEARCH AND CLINICAL PRACTICE

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Research underpinning the molecular biology of breast cancer have led to novel therapeutic options that offer more women with ABC realistic chances of living longer with their disease. How well they live during and after treatment demands proper assessment utilising validated and appropriate Quality of Life (QoL) or Patient Reported Outcome Measures (PROMs). To enable wise decision-making, patients require information regarding the harms and burdens of novel drugs, not just the more traditional outcomes such as PFS and OS. Outcomes that might excite clinical scientists maybe of little interest to patients experiencing side-effects (SEs) that have a deleterious impact on their functional well-being. Unfortunately, although many trials do now incorporate PROMs, they are often poorly chosen, analysed niaively and are rarely reported in the main clinical journals together with primary outcomes (1). There is still an over-reliance on physician reported grades of SEs which means that many quality of life threatening SEs are under-recognised, under-reported and consequently under-treated. The situation is even worse regarding systematic measurement and reporting of bothersome SEs and their longer term impacts on patients' role-functioning in 'real world' studies. There is a real need to consider the wider societal costs of expensive drugs which might limit a patient's ability to work or fulfil caring responsibilities for relatives. In this talk I will outline some of the newer measures that might be used in ABC trials and in routine follow-up in clinics (2).

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IN30

METASTATIC BREAST CANCER: OPTIMAL IMAGING TECHNIQUES FOR BONE ONLY DISEASE

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Bone is the most frequent site of breast cancer metastasis, with bone metastases present in 70% of metastatic breast cancer (MBC) patients, being the first metastatic site in 25–40% of MBC. MBC with bone only metastasis (BOM) has specific characteristics, including longer survival and predominance of HR+/HER- tumoral subtype.
Early diagnosis, adequate treatment and evaluation of the therapeutic response are cardinal to improve survival and delay complications. But these objectives face unmet needs…as historical imaging modalities, bone scintigraphy (BS) and computed tomography (CT), present major weaknesses.
The mainstay of bony metastasis evaluation remains BS with technetium-99m methylene diphosphonate (99mTc-MDP). At diagnosis, comparisons with modern imaging have shown its limited sensitivity, leading to false negative observations or delayed diagnosis of BOM, impacting on treatment decisions. Contrasting with its value for the detection of soft tissue metastases, CT is insufficient for the detection of BOM. Both techniques perform poorly when used to assess treatment response. BS has poor sensitivity and specificity for detecting early response or non-response. It cannot differentiate between new sclerotic metastasis indicating progressive disease from a "flare phenomenon" and transient osteoblastic response indicating healing within a previously osteolytic lesion. The value of CT for evaluating response is limited, facing the same difficulty as BS when observing new sclerotic lesions. The Response Evaluation Criteria In Solid Tumours (RECIST) consider bone metastases as nonmeasurable, except for those with a soft tissue component.

There is a growing interest in modern imaging methods to optimize the detection and response assessment in BOM. Two techniques have emerged, combining anatomical and functional information: [18F]-fluorodeoxyglucose (FDG) positron emission tomography/computed tomography (PET/CT), and whole-body MRI (WB-MRI) including diffusion-weighted sequences (DWI). Interestingly, both techniques are able to detect bone metastases, but also to rule out soft tissues metastases. FDG PET/CT detects and quantifies the elevated glucose uptake and retention in metastases and its decrease in treatment response. Its limitations are non FDG-avid disease, and FDG–PET bone "flare" reactions sometimes observed after initiation of hormonal therapy or when GCSF is used to prevent neutropenia. WB-MRI detects, quantifies the extent of bone metastasis, and evaluates the response on the basis of morphologic and functional criteria, i.e. the effect of cell density on average diffusion coefficients (ADC), probing changes in water diffusivity within tissues. Recent works have demonstrated the ability of WB-MRI to disclose progressive disease earlier than CT and PET/CT, allowing early treatment adaptation.
FDG PET/CT and WB-MRI are being compared in BOM patients for lesion detection and response assessment, and in oligometastatic disease to bone. Finally, the most recent hybrid imaging modality, PET/MRI, combining the advantages of both techniques, is a perfect research tool to compare PET/CT and WB-MRI to detect metastases and measure response in MBC.

IN31

LIQUID BIOPSY IN CANCER—GETTING DOWN TO THE NANO LEVEL. CAN NANO-DIAGNOSTICS LEAD TO COMPREHENSIVE, ACCURATE, AND AFFORDABLE BIOMARKERS TO IMPROVE ADVANCED BREAST (ABC) CARE?

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Next-generation or massive parallel sequencing of nucleic acids (DNA, meDNA, RNA) combined with protein analysis (mass spectroscopy, RPPA, reverse phase protein lysate microarray, proteogenomics) can precisely define the pan-omic landscape of cancer. However, the dramatic clinical shift from a few, to multiple (biomarker), to individual sub-typing of ABC is providing significant therapeutic challenges. The reductionist approach to integrate this information into molecular pathways/networks will provide the next clinical utility paradigm to "map" an individual's cancer. Concomitantly, nanotechnological advances are allowing for unprecedented utility in the screening, early detection, treatment therapeutic ratio assessment as well as relapse monitoring of ABC. These novel nanotechnologies are cost-effective, available at point-of-care, and simple to use.
For nano-diagnostics to rapidly achieve clinical translation, well-defined issues surrounding clinical validation and clinical utility hurdles must first be overcome. Initial technological cross-validation studies of ctDNA have been controversial, with poor inter-test concordance only reflecting part of the spectrum of biomarker variations. Several technical & biological challenges have delayed routine CTC measurement in the clinic. Defining, characterising, analysing, and validating exosomal coat and internal componentry have opened up new fields in multi-analyte analysis. For instance, such pioneering work have discovered that in-situ and circulating proteins are the predominant biomarkers for cancer. Herein, a comprehensive review and comparison of nanotechnologies will be presented, detailing technologies and advances that allow for highly accurate measurement of circulating tumour nucleic acid (ctNA); exosomes; cancer stem-cells/cancer tumour cells (CTCs); platelets, as well as proteins. We hypothesize that the integration of modified antibodies/nanoyeast-scFvs with the above new nanotechnologies could significantly enhance therapeutic utility, albeit with significant validation challenges that first need to be addressed.
An explosive amount of innovative work in emerging fields have struck down the tired old dogmatic approach for clinically actionable ABC diagnosis and treatment. These new nanotechnologies are fast starting to address the (thus far, unmet) essential needs of precise, robust, accurate, yet affordable companion diagnostics for ABC care.

Abstracts – Nursing and Advocacy

PR32

IMPACT OF OBTAINING PATIENT REPORTED SYMPTOMS FROM PATIENTS WITH METASTATIC BREAST CANCER

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Background: Early Palliative Integration into Cancer Care (EPICC) is a project that began its implementation process at clinical cancer settings to provide patient-centered care for advanced breast cancer patients and to help identify patient-reported outcomes (PRO) of symptoms related to cancer treatments. Research documents, that earlier identification and management of patients' experiences of symptoms and quality of life concerns, as well as caregiver distress using validated tools such Edmonton Symptom Assessment Scale (ESAS-r) leads to improved integration of a palliative approach in oncology practice, better access to expert palliative care for those who need it earlier.
Purpose: The aim of this study is to evaluate the impact and acceptance of repeated PRO in implementing a combined screening tool ESAS-r and Canadian Problem Checklist (CPC) (ESAS-r+CPC) in the clinical context with metastatic breast cancer patients and their primary caregivers, as identified by the patient. This screening tool ESAS-r+CPC will measure patients' self-reported cancer diagnosis related symptoms and additional care needs during their treatments.
Methods: Qualitative methodology will employ a narrative inquiry approach with 3–4 focus groups or individual semi-structured interviews from patients, their primary caregivers, as identified by the patient; oncologists; oncology nurses; primary care physician providers identified by patients; and interpreters within the Cancer clinical settings. Semi-structured interviews with open-ended questions will facilitate data collection and thematic with content analysis with descriptive data.
Conclusion: Knowledge generated here will provide insight on how to design and develop a seamless process of measuring PRO utilizing ESAS-r that is initiated by the patient self-reporting and then is able to discuss the concerns with the interdisciplinary. Insight and knowledge gained from this evaluation will also permit increased collaboration of the interdisciplinary team with an understanding of their ability to practice to their full scope.

PO33

AN INNOVATIVE USE OF HOLISTIC NEEDS ASSESSMENTS IN SECONDARY BREAST CANCER

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A Holistic Needs Assessment (HNA) ensures people's physical, practical, emotional, spiritual and social needs are assessed in a timely and appropriate way. This assessment allows for a care and support plan to be formulated in partnership with the patient to assist then in coping with their current needs.
Secondary breast cancer can have a protracted projected illness trajectory and patients' needs will change over time.
Within the secondary breast cancer service, the use of HNA was introduced to examine if patients' concerns change over time. HNAs are completed around diagnosis (up to 12 weeks post diagnosis,) at 6 months from 1st HNA and then yearly for the stable patients.
A description of how the HNA is completed and care plan formulated and communicated with the patient will be presented, accompanied by the data from a review of the themes and highlights of the needs and concerns.
The data has been used to refer for support, highlight individual needs and examine trends across the local patient group in order to tailor support locally.
Future developments are to assess if the program of HNA helps to decrease anxiety and helps patients plan their future. The outcomes will also be used to develop training needs for staff supporting these patients.

PO34

RECOGNISING THE NEED FOR SPECIALIST METASTATIC BREAST CARE NURSES WITHIN AUSTRALIA; PLANNING FOR ONGOING EDUCATION AND PLACEMENT OF METASTATIC BREAST CARE NURSES

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The role of the Breast Care Nurse (BCN) within the Australian Health Care setting has been in existence for over 20 years. Whilst these established roles have proven beneficial for patients who have been diagnosed with breast cancer, the BCN role has had a significant focus on caring for patients with early breast cancer as opposed to metastatic breast cancer. The purpose of this abstract is to explore the need for specialist Metastatic BCNs along with strategies to fulfil the placement and educational requirements to appropriately care for patients with metastatic disease.
Identified Gaps: The Breast Care Nurse (BCN) role in Australia emerged in the 1990s in response to significant gaps identified in the ability of existing health services to meet the information and support needs of women with breast cancer. The diagnosis, treatment and ongoing care of people experiencing breast cancer is increasingly complex, with BCNs playing an integral role in coordination of care and the provision of information and support. The BCN role has evolved over the past two decades and will continue to do so to reflect the changing breast cancer treatment landscape, for both early and metastatic disease (Ahern, 2015).
A BCN takes a holistic approach to a person's psychosocial and physical health during a breast cancer experience. Research tells us that, at a minimum, BCNs provide their patients with: support; education; counselling; advice; resources; care; public advocacy; management; and research. Presently, BCNs provide a continuum of care that leads to a more personalised and coordinated approach for people experiencing breast cancer, increased participation in clinical trials, and better access to information. This support is provided across the breast cancer experience: from the early days of diagnosis, to survivorship or to metastatic disease (Breast Cancer Network Australia, 2019).
Current Models of Care: The only current Model of Breast Care Nursing was published in the early 2000's by Australia's National Cancer agency – NBOCC (now Cancer Australia). This model proposed that care for people with breast cancer would ideally consist of 5 visits in 12 weeks post diagnosis, suggesting a "surgical focus" model, with little to no mention of care of women with metastatic disease (National Breast Cancer Centre, 2000).

PO35

NURSES AND PATIENTS INTERACTIVE MODULE FOR BETTER TREATMENT OUTCOME

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Aims: [1] Explore extent to which advanced breast-cancer-patients wish to be involved in making decisions about their care. [2] Explore patient-care-views of nurses.
Methods: Our NGO-volunteers/nurses conducted this pilot-study in six rural villages. Total 25 sessions conducted each for patients & healthcare professionals. Feedback by questionnaires. 62 advanced breast-cancer-patients [age 37–60 years] & 5 nurses, 1 physicians & 1 counselor participated.
Evaluated for: [1] What choices existed ? 2] Where treatment administered? [3] Affordability of care? [4] Access to treatment [5] supportive care options [6] type & extent of psychosocial support needed.
Results: 2 dropouts due to patients-death. >92% patients stressed need for better communication with nurses/surgeons. Patient-nurse Evaluation charts with percentile-significance presented in charts/formats during ABC5conference.
Conclusions: Resource-poor-nations need NGO's to develop such programs in absence of government-run-healthcare-setup. We NGO activists need focused platform like ESO to discuss our project ideas/concerns/difficulties with senior researchers from USA/EUROPE. Must take initiative in propagating such efforts in developing-nations. Our findings support view that patients want more involvement with nurses in their own care. NGO counselors & nurses can play vital role in this process to form a better scientific module in future. We must modify attitudes of nurses towards psychosocial needs of advanced breast-cancer-patients & their families.

OR36

FEMAMA STRATEGIES TO ENSURE HER2+ BREAST CANCER TREATMENTS IN BRAZIL

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Background and context: In April 2017, the Brazilian government approved the distribution of Trastuzumab and Pertuzumab for the treatment of patients with HER2+ Metastatic Breast Cancer (MBC) in the Brazilian public health system (SUS). Despite the regulations for the supply of medicines, Trastuzumab took approximately one year to start to be distributed, instead of 6 months as

recommended, and there are still disruptions in the delivery of it. The ordeal regarding Pertuzumab's approval has been going on now for nearly 1.5 years with no prediction that it will start being offered to patients.

Aim: Ensure access to Trastuzumab and Pertuzumab in HER2+ MBC treatments in the SUS.

Strategy/Tactics: FEMAMA's main strategy was to develop several projects with the same purpose. The involvement of various audiences of interest and the several denouncements made in the press also helped to maximize efforts aimed at achieving our goal, which is to include trastuzumab, and pertuzumab, subsequently, in treatments provided by the SUS. After this, FEMAMA uses the same strategy to monitor the supply of medicines to patients, making sure that they have this right afforded to them.

Program/Policy process: Meeting with the Public Prosecutor's Office to denounce the delay in the offer of Trastuzumab and to question the possibility of preventive action being taken so that the same delay in the supply of Pertuzumab would not occur.

- Requesting information from the Ministry of Health, through the Access to Information Act, on the process and prediction for the supply of Pertuzumab.
- Conducted a survey with the NGOs associated with FEMAMA to verify the adequate distribution of Trastuzumab in their States.
- Reporting to the press about the constant interruptions in the delivery of Trastuzumab by the Ministry of Health.
- Discussions at events about the need for price negotiations between the Ministry of Health and the pharmaceutical industry for the release of Pertuzumab.

Main Outcomes:

- 4 denouncements to Public Prosecutor's Office about the delay and interruption of delivery of the drugs.
- Discussion about the theme in 9 Public Hearings held in different states.
- 228 publications in the press, from 18 occasions FEMAMA has triggered the media.

What was learned:

- The incorporation of medicines into the SUS does not guarantee that the patients will have access to it, there are still many obstacles related to the prices of the medicines;
- The discussions on drug prices needs to be expanded and involve civil society, which is held hostage by the lack of information.
- Civil society carries out advocacy for the inclusion of new treatments with mastery, but still fails in the mobilization for the control and guarantee of the right acquired.

BP37

BENEFIT ASSESSMENT OF NEW METASTATIC BREAST CANCER (MBC) TREATMENTS – A MULTI-STAKEHOLDER APPROACH

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Background: There is a growing understanding, as science evolves that different cancer types require different approaches to treatment evaluation, especially for metastatic stages. The introduction of new MBC treatments may be hindered by several elements including the availability of relevant evidence for disease specific outcomes and the current benefit evaluation process through health technology assessment (HTA).

Aim: This White Paper reports the challenges in the overall benefit assessment of new MBC treatments, as well as the role of multi-stakeholder collaboration in MBC decision-making processes.

Methods: Building on previous work of the MBC policy roadmap (2017), a targeted literature review and expert discussions with patient advocacy representatives, members of the academia, oncologists and industry were held in 2018 to inform the multi-stakeholder consensus paper (2019).

Results: The White Paper identified that not all attributes which are relevant to MBC patients are consistently considered in current decision-making. Two groups of recommendations were developed. The first group, addressed to government agencies, HTA decision-makers and payers, called for the inclusion of MBC-specific patient priorities and outcomes in the benefit assessment of new MBC treatments. The recommendations referred to: patient needs, overall survival, time-to-event endpoints, patient involvement in decision-making, educational means for policy makers on the burden of disease, patients' ability to participate in the daily activities, use of MBC-specific quality of life measures, value in delay of chemotherapy, the importance of real world data collection and use of value frameworks. The second group, addressed to MBC multi-stakeholder groups, called for enhanced collaboration to improve MBC patient outcomes. The recommendations referred to: multi-disciplinary specialised teams and tumor boards, integration of patient perspectives into treatment guidelines, patient participation in early dialogues including scientific advice engagements and provision of educational materials for patients on the HTA process.

Conclusion: The assessments of the overall benefit of MBC treatments are considered most valuable when informed by the disease specificities and MBC patients' needs and priorities. The White Paper calls for decision-makers to begin to consistently consider MBC patient needs, patient relevant outcomes, and align on concrete patient relevant evidence requirements in MBC as well as a common definition for overall treatment benefit. The alignment and multi-stakeholder engagement between patients, physicians, companies, and regulatory and HTA bodies would not only benefit patients, but also the health systems and society in general.

BP38

HOW A WEB-BASED FINANCIAL RESOURCES NAVIGATION TOOL CAN HELP PATIENTS MANAGE THE FINANCIAL TOXICITY OF BREAST CANCER

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Introduction: A cancer diagnosis can have a significant impact on patients and families. A 2017 Canadian Breast Cancer Network survey of 458 breast cancer patients in Canada shared that 47% of early stage patients, and 42% of metastatic patients experienced a negative impact on their finances as a result of their diagnosis; 22% of early stage patients and 40% of metastatic patients reported that this was a large negative impact. Of the respondents who looked for

information about financial supports only 28% of early stage patients and 4% of metastatic patients were able to access all of the information they needed.
Method: An advisory board of breast cancer patients outlined the key financial concerns and informational gaps. CBCN worked with a social worker who specializes in oncology to perform an environmental scan and identify what resources currently exist in Canada to support breast cancer patients from a financial perspective.
Results: CBCN developed "FinancialNavigator", a digital web-based navigation tool that allows patients and health care professionals to access a comprehensive database of financial resources available to Canadians with breast cancer. While this resource was developed specifically for breast cancer patients, many resources identified in this database may also be useful for patients with other cancers. In addition, the resource supports patients and health care professionals in navigating the various health insurance systems in Canada.
Conclusion: Patients and oncology health care professionals have access to a web-based tool that provides them with a user-friendly database of financial resources to support patients and families.
This resource can be accessed at https://cbcn.ca/en/financial navigator.
Objectives:
1. Increase understanding of financial resources available to breast cancer patients.
2. Understand how to access and navigate a web-based financial resources navigation tool.

BP39

TRASTUZUMAB IN METASTATIC BREAST CANCER: HOW TO MAKE BIG THINGS OUT OF SMALL PIECES?

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Background: Trastuzumab (T) is a major drug in the management of metastatic breast cancer (BC). In Tunisia T is approved for early stage BC but the access to this drug in the metastatic setting is very difficult without healthcare assurance coverage.
Aim: We aimed to report the experience of medical oncology department Abderahmen Mami Hospital Tunisia in the management of T surplus doses that were used to treat MBC patients who did not have access. We also reported outcome of those patients.
Methods: Patients with early stage HER2 positive breast cancer receiving T, and how had access to the drug (group 1), were invited to have their treatment on a specific day at the out-patient day-hospital. A day during which all T preparations were performed. All those patients received their full dose according to their weight. One dedicated nurse supervised the collection of all T surplus. Patients with HER2 positive metastatic breast cancer eligible for T, and how had no access to the drug (group 2), were also invited to have their chemotherapy on the same day and they were included as candidates to receive a weekly T made possible from the surplus. Only weekly T was given in order to offer the maximum possible number of cycles to the maximum possible number of patients every week. All this process was explained to both groups and all patients voluntarily accepted to participate. Data about group 2 patients treated at least with 1 full cycle of T within this process from 2011 to 2017 were collected and therapeutic outcome were reported.
Results: Over a period of 8 years, T was made possible for 49 patients with metastatic breast cancer. Median age was 47 years-old. Seventy percent of patients received Trastuzumab for the first time at the first line, 16% received it for the first time at second line and 4% at the third line. Taxanes were the most common therapy associated with T. Response evaluation after 3 cycles of therapy containing showed an objective response rate (complete, partial response and stable disease) of 93% in first line, 90% in second line and 91% in third line. After a median follow up of 28 months, overall survival was 43 months.
Conclusions: Optimisation of Trastuzumab surplus in the out-patient day hospital, offered the opportunity to many patients needing this drug and having issues with access. It showed high efficacy in several lines and good patient outcome.

PO40

DESIGNING A PEER NAVIGATION PROGRAM FOR PATIENTS WITH ADVANCED BREAST CANCER

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Background: Breast cancer patients from low and middle-income countries often present with late-stage disease due to inadequate detection protocols, poor access to diagnostic and treatment facilities, low income, and the stigma of cancer. These patients with advanced or metastatic breast cancer (ABC) report higher levels of psychological distress and feelings of isolation. There is limited support for ABC patients, even more so in regions of the world where patients have inadequate access to resources to help them cope with their diagnosis.
Programme Description: The aim of this project was to develop a program for patient organizations in low resourced regions that offers individualized emotional, logistical, and informational support to ABC patients through peer navigation by trained volunteers. The peer volunteer is an individual who is living with ABC and shares similar experiences and perspectives. Volunteers do not provide medical advice. The program was based on both evidence and experience of individuals who have expertise in cancer care support. Training materials were developed in English and translated to the local language of the program location.
Patient organizations piloted the Peer Navigation program in two countries. A core team from the organization trained on the content and implementation of the program. They agreed to recruit and train a volunteer group of peers regarding the essentials of peer navigation, navigating advanced breast cancer, and communication and counseling skills. Considerations of choosing organizations to implement the program included an identified need for peer navigators, some existing infrastructure (e.g., volunteer programing), and an organization that was ready, willing, and able to provide leadership of the program in their country and region. Also considered was long-term program development and expansion.

Conclusion: The Peer Navigator program uniquely addresses needs of ABC patients through empathetic guidance and support that only a peer can provide. It will also strengthen the ABC community by decreasing barriers to care, empowering patients to use their own voice and experience to help and guide others, enhance access to available care, services, and resources, and support quality of life. This also provides an opportunity to undo myths and instill the facts about ABC and its treatment. Rigorous methods for evaluation of the peer navigation intervention will include patient-reported outcome measures in the domains of social support, emotional support, and empowerment in order to understand impact and guide future implementation.

PO41

DIVERSIONAL THERAPY FOR PATIENTS WITH ADVANCED STAGE BREAST CANCER

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Breast cancer is the number one diagnosed cancer in Nigeria. Sadly, due to a lack of screening programs and awareness of the signs and symptoms of breast cancer, 75% of breast cancer diagnoses in Nigeria are in the advanced stages of the disease. Late-stage breast cancer is expensive and complicated to treat and most of our patients at this stage are left feeling confused and alone. To address the information gap that exists with advanced stage breast cancer, in 2017, Run For a Cure Africa (RFCA) established the MetaPink Support Group with a grant from the Union of International Cancer Control (UICC) SPARC Program.

The MetaPink program was created to simplify the breast cancer journey for metastatic breast cancer patients in Nigeria and give them the emotional support and confidence to understand and navigate through their personal breast cancer journey. Participants from the MetaPink program reported feeling emotionally supported and more confident to fight their disease. Additionally, 68% of patients who attended the support group, reported knowing their individual diagnosis. This is significant because at the start of the class not one participant could name their individual diagnosis; the patients thought they had breast cancer and that was it.

To build on the support offered through the MetaPink Program, RFCA is adding a diversional therapy component to the support group. Diversional therapy is a method that originated in Australia in 1945. Tenets of Diversional Therapy are rooted in the use of a leisure activity, chosen by the patient, to bring fulfilment and purpose while improving the quality of life of an individual with a disability.

RFCA will pilot this program and each month will offer a leisure activity through their partnership with a local skills acquisition center. The class will be open to patients and one family member/care giver. Before the start of the program, patients will be given options of skills to learn and will select the activity (e.g., soap making, beading, baking). The intended outcome of the diversional therapy component is to give patients with advanced stage breast cancer a much-needed respite from their chronic disease and a sense of purpose for the patient which, research has shown, will encourage patient adherence to care.

PO42

RETURN TO WORK AND FINANCIAL TOXICITY OF BREAST CANCER PATIENTS IN JAPAN

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Background: For cancer patients, "Return to Work" is important in order to pay medical cost and to maintain self-esteem. However, in Japan, one in three or four people quit work after diagnosis, due to the side effects of cancer treatment. We know that cancer patients face with many side effects, but we have not yet identified which and how side effects may affect her work life and finances.

Purpose:

We conducted survey aimed at the following three points.

1. Side effects affecting Return to Work.
2. Current status of work.
3. Financial Toxicity.

Method: We conducted a web survey of 150 breast cancer patients (100 patients: early breast cancer/EBC, 50 patients: metastatic breast cancer/MBC) who had received cancer treatment within 10 years, they all had jobs when diagnosed. To measure side effects, we evaluated 35 items, based on 4 scales (4: quite painful, 3: painful, 2: slightly painful, 1: no pain), and using "COST score; Cancer 2017 Feb 1; 123(3): 476–484.)".

Results:

1. Side effects and return to work.

The side effects that affected work were fatigue, hair loss, nausea and vomiting, skin changes, lymphedema, chronic pain, feelings of depression, constipation, loss of appetite, neuropathy and hot flush in this order. When comparing EBC and MBC, MBC is significantly affected by all side effects.

2. Current status of career changes.

After being diagnosed with cancer, 86% of the patients wanted to "return to work", but 20% left their jobs, 15% moved within the same workplace, and 7% take a leave of absence. In addition, 62% of EBC can return to work, but among 90% of MBC with hoping to "return to work," only 46% can return to work and 30% are forced to move within the same workplace.

3. Financial toxicity of cancer treatment.

85% of breast cancer patients were obliged to change work styles and 38.7% told a decrease in their income. In MBC, 71% of patients answered a 38.6% decrease in their income. 'COST score' of breast cancer patients is 14.5 (0–41) on average. 'COST score' is grade0:4%, grade1:51%, grade2:45%, and grade3:0%. There was no significant difference between EBC and MBC in 'COST scores'. Our study find that despite of the universal health insurance system as well as other public support available in Japan, 96% of the breast cancer patients experience "Financial Toxicity".

Conclusions: Our study find that MBC patients need to keep working to earn for cancer treatment and they make an effort to change their working styles. Return to Work is a very important issue both to continue treatment and to keep the patient's QOL.

The medical profession should care more about the side effects of treatment and how they affect the patients' everyday lives, especially MBC.

Acknowledgment: Funded by PASE (Patient Advocacy Support by EFPIA JAPAN)-AWARD.

PO43

'METASTATIC BREAST CANCER: THE VOICE OF PATIENTS AND THEIR FAMILIES'

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Fear and sorrow. These are the most common feelings a woman experiences when diagnosed with metastatic breast cancer. But she is not the only one to feel miserable. For her family, the perception of suffering at that moment is even stronger. In addition, the disease causes a deep change in every household relationship: from the husband-wife relationship to the daily life of children, as well as financial issues and changes in family members' professional life. These are some of the findings of an unprecedented survey addressing the subject, which was commissioned by Pfizer and conducted by Instituto Provokers.

From quantitative and qualitative interviews involving 170 patients and 240 family members living in nine Brazilian capital cities (SP, RJ, BH, SA, RE, FO, BE, CO, and PA), the survey 'Metastatic breast cancer: the voice of patients and their families' provides a deeper and different look towards this issue, digging into the impact of the disease to every individual involved with this problem with the patient. Therefore, while 72% of the patients say that they have experienced a lot of suffering when they were diagnosed with a tumor, this perception is even more overwhelming among family members: 88% of them have felt that way when the patient was diagnosed with cancer.

If, on one hand, patients' relatives report feeling undermined by the disease, on the other hand, they represent an emotional fortress for those women. They are the ones who provide consolation and the support they need to cope with the illness. Almost one third of the patients (29%) state that the spouse represents their main source of support.

More than supporting the patient, her family also plays a role in encouraging those women to comply with treatment. Almost all patients, or 92% of the sample, say that they want to control cancer so that they can "live longer and keep looking after the family", while 89% say that they need to keep strong to "provide support to the family".

On the other hand, patients' concerns with their families can also, in some cases, give rise to distressing feelings. Most of those women (51%) are convinced that the disease is a "burden" for the family, and almost one out of five patients (19%) reports occasionally seeing some member of the family crying alone.

Although receiving a diagnostic of cancer means a moment of pain and strong suffering for all family members, the respondents were able to identify some positive aspects in this situation. Most of the patients (61%) say that, for example, people no longer argue on minor things at home. In addition, 71% of those women agree that the family relationship was strengthened after diagnosis – a perception shared by 75% of the family members.

PO44

PATIENTS' PREFERENCES FOR BREAST CANCER TREATMENTS: SUBGROUP ANALYSIS RESULTS FROM DISCRETE CHOICE EXPERIMENT (DCE) SURVEY IN 4 EUROPEAN COUNTRIES

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Background: Patient involvement in regulatory decision-making process was introduced in 1987 by FDA and 2017 by EMA and is becoming increasingly important by HTA Organisations around Europe. The survey's objectives were: to understand breast cancer patients' perspective when choosing their treatment, highlight treatment characteristics valued as most important by patients and gain information on patients' trade-offs between available treatments.

Methods: A DCE survey of breast cancer patients was conducted in Spain, Poland, France and Ireland. The survey design included the following steps: literature review, qualitative research, cognitive debriefing, questionnaire design, data collection and analysis. A panel of experts from participating countries (physicians, patient group representatives, ex-payers) selected the survey treatment attributes as follows: Progression free survival (PFS), Febrile Neutropenia (FN), Pain, Functional Well-Being (FWB) and Out-of-Pocket Payment (OPP). Patients selected, or opted-out between two unlabelled hypothetical treatments containing these attributes. Panels of breast cancer patients were recruited and provided responses via an on-line questionnaire. A D-efficient experimental design with 16 choice-sets was constructed; conditional logistic model was used to estimate patients' preferences. Marginal rates of substitution (MRS) of the OPP were estimated based on patient-reported amounts for each country.

Results: In total, 317 breast cancer patients completed the survey. Patients chose FWB and Pain as the most important attributes across countries. Preferences differed by age for FN and FWB with significant coefficient difference; older respondents (age >54) have a stronger preference for lower FN risk and better levels of the other two attributes compared to younger respondents. Respondents with higher education have a stronger preference for longer PFS while respondents without higher education have a stronger preference for lower risk of FN. Significant coefficient difference for respondents with advanced cancer vs. respondents with localised breast cancer was observed for No Pain and both levels of FWB attribute. Patients with advanced disease and those in remission have a stronger preference for these attributes compared to patients with localised disease.

Conclusions: Breast cancer treatments that improve FWB, pain and PFS can be considered preferred treatments from patients' perspective across different subgroups. Patients' preferences should be incorporated in regulatory, HTA and industry decision-making processes.

PO45

CANCER SUPPORT GROUP: AN ADVOCACY AND PEER NAVIGATION TOOL FOR METASTATIC BREAST CANCER PATIENTS

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Background: Breast Cancer diagnosis comes with a lot of challenges. It is a huge burden to the patient, family, and community; subjecting them to financial crisis, emotional distress, dearth of self-esteem, and physiological deformations. From a patient's perspective, treatment of breast cancer is complex and complicated with the weak healthcare system, attitude of health-care workers, lack of insurance, lack of trust to orthodox medicine and stigmatization. Breast cancer patients are constantly seeking solace, people to listen to them and people who understand their state of mind and can be a source of inspiration. Studies have shown that peer cancer support group results in psychological benefit and improve relationships. The 2016 World Cancer Congress patient's pavilion inspired us to start up a cancer support group for cancer

patients, women living with metastatic breast cancer, survivors and caregivers. Our support group name is Abuja Breast Cancer Support Group (ABC-SG), however, we have many women living metastatic breast cancer (MBC). Project PINK BLUE, our founding organization supported us through the UICC SPARC Metastatic Breast Cancer Challenge project. The cancer support started only nine (9) patients when we started, as at today, we are over forty (40) MBC patient, breast cancer patient, survivor and caregivers. The group provides peer-support, peer navigation and patient education. As at today the group has transited from being patient group to also being an advocacy group with a number of activities and programmes aimed at propelling all patients from diagnosis to survivorship.
Method: The study reviewed the one year activities of the Abuja Breast Cancer Support Group (ABC-SG) and surveyed the impact of the peer support to the 40 members of the group through mixed method.
Results: Cancer support groups have the potential to revolutionize cancer care in sub-Saharan Africa, just as seen with HIV/AIDs support groups. The use of technological tools are very helpful to build connectedness.
Conclusions: There is an improvement in psychological states of patients and their physiological understanding of their diagnosis by meeting together, networking, and interaction through WhatsApp group. Our qualitative finding also showed that cancer patients needs platforms to speak out, to advocate and to change the course of cancer care if provided with all the necessary training and support.

PO46

COMMUNICATION APPROACH FOR BETTER PALLIATIVE CARE IN RURAL INDIA, BGO BASED APPROACH

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Aim: Due to financial incapability and absence of manpower poor families often fail to carry their advanced cancer patients to the nodal centres. This pilot study will explore whether communication by mobile phone can lessen this burden.
Method: Initially a plan was generated regarding management of an advanced cancer patient in a nodal centre at District Head Quarter. Subsequently every two week a trained social worker attached to nodal centre will follow up and give necessary advice and emotional support to the patients and their families through their registered mobile phone number. Patient's family were also encouraged to communicate with the team by phone in case of fresh complain and urgency in between.
Results: Since January 2016 to January 2018, 245 cancer patients were contacted by mobile phone every two weeks to enquire about their difficulties. In 76% of the situation trained social workers could give necessary advice by phone regarding management of their physical symptoms. Moreover patient's family were really overwhelmed by the emotional support offered by the team over phone. Only 24% of cancer patients has to attend the nodal centre for expert advice from Palliative Care specialists.
Conclusion: This novel approach helped.

- In providing regular physical and emotional support to the patients and their families.
- In significantly reducing the financial and manpower problems of carrying patients to the nodal units.
- In improve the quality of life of patients by continuous guidance.

More and more team members can take help of this new strategy for better communication and uninterrupted care.

PR47

BREAST CANCER AWARENESS AND ADVOCACY TRAINING PROGRAM IN COMMUNITY HEALTH WORKERS IN A DEVELOPING COUNTRY: CHALLENGES IN THE ENVIRONMENT OF HOPES, FEARS AND EXPECTATIONS

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Background: Breast cancer is the leading cause of cancer deaths among women worldwide with survival rates being even lower in LMICs as compared to developed countries due to poor knowledge and the wrong beliefs. Pakistani women particularly those in rural communities suffer leading to delayed presentation and poor treatment outcomes. CHWs are best suited to address the challenges of patient care in our resource constraint health system by supporting and promoting the rights of the patient.
Goals: To improve the community's health by strengthening the leadership and patient advocacy skills of CHWs towards the breast cancer in the rural communities in Quetta, Pakistan.
Methods: The training was offered to teach CHWs the strategic and evidence-based approach to advocacy. By offering targeted training in breast cancer science and public policy, the breast cancer advocates were trained to become agents of action and change in the mission to eradicate breast cancer.
After training the CHWs, the patients were offered appropriate psychosocial and supporting care and symptom-related interventions as a routine part of their care. Patients and their families were invited to participate in the decision-making process. Efforts were made in bridging the cultural mediation between communities and health service systems, providing health education and information, assuring people get services they need, providing counseling and social support, advocating for individual and community needs.
Results: A total 82 CHWs participated in the advocacy training from different rural areas with a mean age of 30. Majority of the workers were married (81%), received basic trainings in community health education (51%). The pre training knowledge collectively increased from 23% to 78%.
There was significant improvement in the attitude and knowledge regarding the challenges aimed to empower advocacy groups, hospital networks and support groups to close the gap in information, support, awareness and policy between MBC and early stage disease and support women diagnosed with metastatic breast cancer. A significant increase was also noted in their confidence and skills to motivate women in acquiring the early treatment.
Conclusion: The training programs related to breast cancer advocacy and awareness may be a feasible and effective first step in the developing countries such as Pakistan in reducing the burden of breast cancer. There are some interventions that will improve health, reduce costs and address disparities. Advocates can work to ensure and expand these interventions, so that both health care value and health equity are improved. One successful example is the integration of CHWs into the health care system as patient advocates.
Keywords: Breast cancer, CHWs, Awareness

PO48

TALKING OPENLY ABOUT METASTATIC BREAST CANCER IN GREECE: THE IMPORTANCE OF DIFFERENT COMMUNICATION CHANNELS

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Being diagnosed with metastatic breast cancer is a fact that changes patients' lives and creates a new reality for them. In Greece, metastatic breast cancer is an issue that creates fear and avoidance since there is a heavy lack of valid information in the general public and therefore there are a lot of distortions considering the illness. Hellenic Association of Women with Breast Cancer "Alma Zois" is a patients' group that during October 2018–October 2019 implemented a series of projects aiming at: providing awareness about metastatic breast cancer, providing direct access to psychological support for MBC patients and minimizing the distortion and the fear about the disease while instilling hope based on realistic data. By using different communication channels the campaign included the following projects:

- October: A Photo booth titled "Learning about metastatic breast cancer" was placed in a Mall during the Metastatic Breast Cancer Awareness Day.
- November: An easy to read leaflet about metastatic breast cancer was distributed in hospitals.
- December: A specialized website focusing on metastatic breast cancer was launched. It includes valid information about the illness, ways to improve quality of life, personal stories of metastatic breast cancer patients etc.
- January/May: Creation of a series of videos with health care professionals giving information about medical issues concerning metastatic breast cancer, tips about psychological management of the disease and instructions about yoga exercises.
- February: A Mobile app titled "MY alma" was developed for every woman living with metastatic breast cancer. The application provides support in everyday life through useful and practical advice, communication with supportive structures and self-observation tools for side-effects and emotions.
- February: A Public lecture about the needs of women with MBC and the latest medical information about the disease took place in a rural area of Greece in co-operation with the Medical School of Thessaly.
- April: A press conference for a thorough presentation of the features of the app to the media took place in Athens.
- October: An awareness campaign about MBC run in the media and in the transportation system.
- October: One day conference for general public aiming at providing information about different aspects of metastatic breast cancer took place in Athens.

All these different projects increased the interest of the public about metastatic breast cancer as there was an increase in the number of calls at the Helpline, in the number of visits at the MBC website and social media engagement.
Moreover, national media showed increasing interest on MBC, asking for interviews and articles regarding information and advice for MBC patients.

PO49

RECOMMENDATIONS TO IMPROVE THE LIVED EXPERIENCE OF BREAST CANCER PATIENTS IN CANADA

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Introduction: In 2017, the Canadian Breast Cancer Network (CBCN) undertook two surveys of Canadians who have experienced a breast cancer diagnosis. There were 278 people diagnosed with early stage breast cancer and 180 people living with metastatic breast cancer who responded to these surveys.
Results: The survey data shows that while patients feel supported and well cared for in certain areas, there are still significant opportunities for improvement. Through this data CBCN has identified five overarching factors that could greatly improve health outcomes and the quality of life of Canadian breast cancer patients:

1. Improved Educational Resources.
2. Increased Access to Treatments.
3. Increased Access to Information.
4. Integrated Systemic Supports.
5. Increased Awareness and Understanding of Metastatic Breast Cancer.

Conclusion: Quality of life and health outcomes for breast cancer patients in Canada can be improved through collectively addressing the five overarching factors identified through this survey.
Objectives:

1. Understand factors that can improve health outcomes for breast cancer patients.
2. Gain knowledge and insight from the lived experience of breast cancer patients.

PO50

QUALITY & LONG LIFE OF ADVANCED BREAST CANCER PATIENTS

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The late presentation of Cancer by women has created a worldwide concern, & also attention to Advanced Breast Cancer & sometimes Metastatic disease.
Indian Cancer Society has long had Breast Cancer Survivor Volunteers working to create awareness among the Community & encouraging early diagnosis to prevent unnecessary suffering. They have created a questionnaire to understand reasons for late presentation & also spoken to Doctors about the medical perspective.
Their challenges fell into 3 broad categories.

a. Physical – fighting fatigue, pain, infection, hot flushes, nausea, anemia, diarrhea, weight loss & lymphedema. Body image is a concern.
b. Emotional – no one to listen, much less attend to needs of patient or care giver. No one to counsel them on sexual dysfunction. Countering looming depression is fearful. People are uncomfortable speaking to them.
c. Logistic – travel, generally on their own; costs, finding caretakers for children, etc. Disruption of their ordinary social interaction& family responsibilities.
d. Financial – Applying for Govt. Funding is long drawn & tedious, not to mention time consuming.

There are no Emotional Support groups in Hospitals. No information leaflets addressing their needs. Waiting in turn for attention among simpler cases is traumatic.
Realizing gaps in communication & treatment delivery, a whatsapp group of some 70 Breast Cancer Survivors & ABC women was created, most of them hailing from small towns outside Delhi. This is a vibrant group. Several women want to create Awareness & Support services in their area. We established a rapport with one such dynamic woman, to create an Outreach programme in Vrindavan, a temple-town some 300 km from Delhi. ICS Train the Trainer group travels once a month to encourage Self-help groups. We invite women to participate in fun activity, & meet ICS Volunteers. The interaction is beautiful in its simplicity. They are now a Support group for each other.
We are now building on services to help them in meaningful ways – Counselling, Arm care, Financial Support, etc.
Joining Global ABC is in hope to carry new ideas to these spunky women.

PO51

"ABC PATIENTS, ONCOLOGISTS COMMUNICATION" IS A JOURNEY, NOT A DESTINATION

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Cancer remains a difficult disease to treat, it is a challenging disease for oncologists and patients. While cancer's complexity will not go away, effective oncologists-patients communication is increasingly making a difference in patients' lives, especially ABC/MBC patients. It is important to recognize that oncologists and ABC patients have different views on what makes effective communication and that has an impact on the ultimate quality of communication. Good communication improves not only patients' satisfaction but also physical health. Many studies clearly show a correlation between effective communication and improved health outcomes.
Complaints about oncologists commonly originate because of poor communication or because ABC patients' expectations have not been met, or both. While the fact remains that ABC patients and oncologists alike, do not know when or where cancer might return, sound oncologists-ABC patients communication should be the focus throughout the cancer journey as a vital part of care. However, communication gaps still exist and some of these gaps are widening for some ABC patients. This research will focus on addressing four main gaps; which are: (1) the Power Gap; (2) the Attention Gap; (3) the Advice Gap; and (4) the Ethical Gap.
The Power Gap exist when oncologists are not readily eager to share the power of information with their patients, while Attention Gap, is related to situations where an ABC patient is in a state of attention in which every detail of the encounter with their oncologists is observed and milked of all the significance it might have. The oncologists, however, are doing their ordinary job, their daily routine, unconscious of their minor utterances and mannerisms. The Advice Gap concerned with how ABC patients are seeking a reliable advice from their oncologists on what they can do for themselves. Finally, ethical gap is concerned with complex and uncommon problems which can be characterized as macro or micro ethical gaps. Recognizing these gaps would be the first step in bridging them, the following actions would be for oncologists to ask themselves always during every consultation questions like: Am I sharing power with my patients?, Am I taking decision that should be their to make?, Have I given the patient the literal truth about their treatment and prognosis; have they understood it?, How would I feel if I were in the patient's place? This is to highlight the need to focus on sound communication, especially for ABC patients. In cancer journey, the oncologists and their patients travel this journey together where they can choose to be strangers or be companions in this trip. Oncologists-ABC patients communication is a journey, not a destination. The doing is often more important than the outcome.

PO52

CHEMOTHERAPY CHALLENGES IN ADVANCED BREAST CANCERS: AN INDIAN MODEL OF PATIENT ADVOCACY

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Breast cancer(BC)is the most common cancer in India with over 162,000 new cases diagnosed annually. Mortality is high since more than 50% cases are diagnosed in the late stages. Chemotherapy is the mainstay option for clinical management of ABC which can extend from a few months to years. Prashanti Cancer Care Mission (PCCM) is a public charitable trust in Pune, India actively involved in BC treatment, education, training and research. Orchids Clinic-medical unit of PCCM is involved in BC diagnosis and treatment with an in-house chemotherapy facility. A Patient Advocacy group "Pink-Ribbon Support Group (PRSG)", operational since 2009, comprises of BC patients, caregivers and survivors. This group works with the aim of allaying the logistical, financial and mental burden for BC patients with focus on those suffering from ABCs. Comprehensive support is provided in overcoming drug-induced side effects, psycho-social, economic and logistical issues to ensure successful completion of benefits of chemotherapy plans. Many patients undergoing prolonged chemotherapy treatment with expensive, life-saving drugs face significant financial constraints due to inadequate or no health insurance coverage. Therefore, PCCM has created a chemotherapy corpus to provide financial support to such patients. In 2018–19, major subsidies were provided to 1238 BC patients while 539 patients received complete freeships. Our Herceptin fund provides free life-saving drugs to several unaffording patients detected with Her-2 positive BC. PRSG regularly organises psychology counselling and empathy support sessions by trained professionals or cancer survivors. Patients with advanced BC are counselled to overcome feelings of fear of death, malaise, depression, anxiety, helplessness, frustration, social withdrawal, dependence associated with loss in quality of life. In addition, genetic counselors also discuss BC risk management for patients and their blood relatives in case of a strong family history. PRSG members regularly volunteer their time by accompanying patients during chemotherapy sessions, providing commuting services, organising home visits during chemotherapy intervals and baby-sitting for kids. The 'Food Bank' initiative provides special diet plans and free monthly groceries to ensure adequate nutrition to the patients under the supervision of a trained nutritionist. PRSG organises sessions on Yoga, complementary and alternative medicine therapies for improving treatment outcomes. Regular BC awareness symposia and interactions with medical experts are organised to address concerns and queries from BC affected patients and their families. BC-focused NGOs may benefit from the PCCM model of patient advocacy to overcome numerous challenges associated with clinical management of advanced BCs.

PO53

BREAST CANCER EDUCATION ADVOCACY EFFORTS

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Introduction: The essence of breast cancer patient's education is in providing specific knowledge about disease and anticancer

treatment, and in educating family on home based care. Informed and educated patients are able to save self-esteem, to establish good relationship with social environment and to achieve better social participation. Breast cancer sufferers advocacy is in infantile stage in Asia.

Aims & objectives: The aim of this study was to investigate the impact of the education on patient's self-image and the impact of the education on patient-social environment relationship. Especially breast cancer sufferers who return to villages in rural parts of India after taking chemotherapy/surgery in city hospitals need this assistance. Community NGO's can play key role in providing cancer care including patient & family education.

Patients and methods: 42 advanced breast cancer patients (age 50–65 yrs) included in analysis. All matched criteria regarding age and cultural/educational level. Patients/relatives answered questionnaire specifically designed to assess image of patients and relationship with social/cultural environment, family support & community centers.

Breast Cancer educational efforts must be devised suitable to local communities. Due to lack of resources, this issue of role of education in lung cancer care has been neglected for last decade in Asia.

Result: Advanced breast cancer education significantly improved self-image in sufferers group when compared to control group ($P < 0,03$). There was no significant difference after education between these group with regard to social relationship ($P > 0,03$). Due to resource constraints we limited sample size & evaluation parameters. But Our cancer NGO is seeking multi-institutional-collaborations to conduct more-scientific pilot project on this unexplored issue of advanced breast cancer patients community.

Conclusions: Our cancer not for profit society has taken initiative on this front of breast cancer patients education. Self appraisal and psychosocoal support is very important contribution in establishing management approach in which patients assume responsibility for their diagnosis, for changing their emotional environment, and for planning their future. For successful psychosocial adaptation and social participation, it is necessary that whole society provides more resources for psychosocial support towards this sufferers. This is low cost approach to improve care outcomes in resource constrained settings. This issue is fertile ground for further studies by my interaction/participation. Lets "come together to evolve new approaches". Young patient-advocates need such platform for advocating this burning issue.

PO54

NUTRIENT INTAKE QUALITATIVELY & QUANTITATIVELY OF BREAST CANCER PATIENTS UNDERGOING CHEMOTHERAPY AT DR SARDJITO HOSPITAL IN JOGJAKARTA, INDONESIA

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Background: Breast cancer is the most common type of tumor and the leading cause of cancer death in women. It accounts for 23% of all new cancer cases and 14% of all cancer deaths (1). The nutritional status plays a key role both on the risk factors for breast cancer (2, 3, 4) as well as on the anticancer treatment outcome (5, 6, 7). Oncologic patients experience nausea and vomiting following chemotherapy treatment, so they would consume foods with lower nutritional quality. They consume calories and protein lower than recommended levels as well as micronutrients such as vitamins and minerals (3). Individual dietary diversity scores (IDDS) have been validated for several age/sex groups as proxy measures for macronutrient and micronutrient adequacy of the diet (4). Quality and quantity of the diet determine the outcome of breast cancer patients on chemotherapy.

Objectives: To investigate quantitative nutrient intake and dietary diversity score of breast cancer patients undergoing chemotherapy in Dr Sardjito hospital.

Methods: The study was observational with cross sectional design. The subject is all breast cancer patients on chemotherapy in the hospital. Total of 194 outpatients aged 19–79 years. A three days 24 hour recalls is used to measure food intake quantitatively and qualitatively. Individual Dietary Diversity Score (IDDS) was define as lowest dietary diversity ($\leq$3 food groups), medium dietary diversity (4 and 5 food groups) and high dietary diversity ($\geq$6 food groups) out of 9 food groups namely cereals & white roots and tubers, vitamin A rich vegetables and tubers, dark green leafy vegetables, other vegetables and fruits, organ meat, meat and fish, legumes and pulses, egg, milk and dairy products.

Results: This study found that mean energy, protein, fat and carbohydrate intake of the subjects were 1699 Kcal, 58 g, 75 g, 203 g, respectively. Most of the patients (80%) have an adequate intake of fat, due to higher consumption of fried food. On the other hand, most of the patients had a low intake of energy, protein and carbohydrate (47%, 60%, 80% respectively). Qualitative analysis showed that mean IDDS was 4,9. Furthermore there was 35% patients had high IDDS, 43% moderate IDDS and 22% low IDDS. There is no significant correlation between macronutrients intake and IDDS ($p < 0,35$).

Conclusion: We found that most of the patients have a high daily food variety, however, a regular nutrition education are very important to increase macronutrients intake of the breast cancer patients.

Keywords: Macronutrient intake, IDDS, breast cancer, chemotherapy

Abstracts – Basic and Translational Research

PO55

COMPARATIVE ANALYSIS OF NATURAL KILLER CELL ACTIVITY BETWEEN ADVANCED BREAST CANCER AND EARLY BREAST CANCER

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Background: Natural Killer (NK) cells are cytotoxic lymphocytes critical to the innate immune system and they recognize and lyse malignant transformed cells through early defense against tumors. Activated NK cells are able to directly lyse target cells by releasing perforin and various grangymes and also produce cytokines such as interferon (IFN)-γ which is a major cytokine to exert immune responses against cancer cells. We aimed to investigate the association between IFN-γ level released from NK cell and tumor characteristics and to compare IFN-γ level of advanced breast cancer and IFN-γ level of early breast cancer.

Methods: This study is a retrospective study using patients' medical records. We collected and analyzed the data of 158 patients diagnosed with breast cancer between July 2015 and December 2017. Cytotoxic activity of NK cells was determined using the NK Vue-Kit® (ATgen, Sungnam, Korea). We transformed IFN-γ levels into natural logs (lnIFN-γ) and analyzed them by using Student t-test or ANOVA.

Result: The mean age of patients at diagnosis was 55.5 ± 12.4 years. The mean level of lnIFN-γ in patients with DCIS (stage 0), early breast cancer (stage I, II) and advanced or metastatic breast cancer (stage III, IV) were 6.48 ± 1.18, 6.14 ± 1.22 and 5.39 ± 1.45 pg/ml, respectively, and p-value was 0.0061. Patients with LN metastases had significantly lower level of lnIFN-γ than those without LN

metastasis (5.57 ± 1.36 vs 6.27 ± 1.21 pg/ml, p = 0.0020). Patients with distant metastases had significantly lower level of lnIFN-γ than those without distant metastasis (4.31 ± 0.85 vs 6.16 ± 1.25 pg/ml, p = 0.0005). However, there were no differences of lnIFN-γ level according to histologic grade and invasion to basement membrane, HR status, HER2 status and molecular subtypes.
Conclusion: There was an inverse association between lnIFN-γ level and stage group. Patients with advanced or metastatic breast cancer showed lower level of lnIFN-γ. Measurement of IFN-γ level released from NK cell can be a useful method of surveillance for breast cancer patients. Further studies are needed to analyse the difference of loco-regional recurrences or distant metastases occurrence between the patients with higher IFN-γ level and patients with lower IFN-γ level in advanced breast cancer.

PO56

THE ROLE OF THE ALLELIC POLYMORPHISM OF THE CCR5 GENE IN LOCALLY ADVANCED BREAST CANCER OF VARIOUS MOLECULAR SUBTYPES AND ITS EFFECT ON THE EFFECTIVENESS OF NEOADJUVANT CHEMOTHERAPY

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Background: CCR5 is a seven-transmembrane G-protein-coupled receptor, mediating diverse signaling cascades in response to its ligands. CCR5, a promiscuous receptor, binds with high affinity CCL5, CCL3. CCL5/CCR5 interactions may favor tumor development in multiple ways: acting as growth factors, stimulating angiogenesis, modulating the extracellular matrix, inducing the recruitment of additional stromal and inflammatory cells, and taking part in immune evasion mechanisms. Also, play a role in the development of tumor resistance to therapy.
Purpose: To study the CCR5 (del32) gene polymorphism in patients with locally advanced breast cancer (LABC) of various molecular subtypes and its effect on the effectiveness of perioperative chemotherapy.
Methods: Treatment results of 62 patients with breast cancer stages T1-3N0-3M0 treated with neoadjuvant chemotherapy were evaluated. Therapeutic pathomorphism was evaluated in terms of the residual tumor burden identification (RCB) using Miller-Payne classification. The polymorphisms of CCR5 (del32) gene was investigated using a PCR restriction fragment length polymorphism method. Statistica10.0 software was used to perform analysis of variance.
Results: ER+ and PR± expressing tumors were identified in 69.3% of patients, ER and PR negative tumors, in 30.6%. The fifth degree of therapeutic pathomorphosis (pCR) was observed in 3.3% of patients, the fourth, in 11.3%, the third, in 80.6%, the second, in 4.8% of patients. Genotype NN of CCR5 (del32) gene was detected in 46 (73,8%), whereas genotype N/del32, in 15(24,6%) and genotype del32/del32, in 1(1,6%) of patients. In carriers of N/N genotype of CCR5 (del32) gene we found more frequent ER and PR negative tumors (OR = 3,27; 95%CI 1,05–5,49; p < 0,05). There appears to be a relationship between CCR5 (del32) gene polymorphism and the effectiveness of perioperative chemotherapy. The residual cancer burden(RCB) after perioperative chemotherapy was significantly lower in carriers of N/del132 genotype of CCR5 gene compared with the carriers of N/N genotype of CCR5 gene(p = 0,04). The one patient with del132/del132 genotype achieved a pCR after perioperative chemotherapy.
Conclusions: The obtained results indicate the feasibility of further study of the CCR5 gene polymorphism in breast cancer for the purpose of including them in diagnostic and therapeutic algorithms for this disease.

PO57

LIQUID AND TISSUE BIOPSY OF FEMALE DOGS WITH BREAST CANCER: IDENTIFICATION OF MUTATIONS IN MTOR

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Background: Breast cancer is the type of cancer that most affects women and accounts for 25% of new cases of the disease in Brazil. In female dogs, mammary câncer (MC) is the most frequent neoplasm, currently accounting for 42% of all tumors in dogs, often two to three times larger than in women. Currently the diagnosis of MC in female dogs is performed by excisional biopsy to perform the histopathological examination. The study of biomarkers in plasma can complement and direct to personalized treatments through the liquid biopsy. This technique provides less invasive procedures than conventional breast tumor biopsies and could aid in the immediate treatment and follow-up of patients. Through this method it is possible to detect the circulating tumor DNA (ctDNA) that carries the mutations of the tumor cells. The mTOR pathway is a central regulator of the metabolism and physiological index of mammals and is dysregulated in most tumors, one of which is breast cancer. Therefore, the objective of this study is to identify mutations in the mTOR pathway through liquid biopsy and tissue biopsy, performing the extraction of circulating DNA (cDNA) and mutation panel analysis by Next Generation Sequencing (NGS). In female dogs in follow-up it will be possible to detect potential metastatic foci early and direct patients to specific treatments.
Methods: Plasma samples and tumor fragments were collected from female dogs with mammary cancer in newly diagnosed, in follow-up and control (healthy). Allprep (for tumor) and QIAamp (for plasma) DNA extraction kit (Qiagen®) was used, which were used for Next Generation Sequencing (NGS) (Illumina®, MiSeq). The Qubit was used to quantify the samples. An analysis was made by fastq, which presented good sequence quality to perform bioinformatic analysis.
Results: It was observed in quantification by Qubit the DNA In the plasma samples of female dos with MC was lower than that of the tumors DNA. Bioinformatic analysis is still being performed. CONCLUSION: The Next Generation Sequence of the liquid biopsy and tumor biopsy of female dog with MC is promising in the diagnosis and prognosis of this neoplasm, and makes them potential biomarkers for patients with MC.

PO58

CLINICAL IMPACT OF BREAST CANCER STEM CELLS IN METASTATIC BREAST CANCER PATIENTS

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Background: Breast cancer treatment modalities target proliferating cells, but because breast cancer stem cells are thought to be slowly cycling, they may escape these targets whenever they are

not actively proliferating. This may be a reason behind breast cancer treatment failures and recurrences.
Aim: Assess impact of Breast Cancer Stem Cells (BCSC) expression on PFS, OS and tumor response in metastatic breast cancer patients. And to correlate it with different clinicopathological parameters.
Material: 76 denovo metastatic breast cancer patients from Oncology Center Mansoura University, Egypt with age 31–70 years. Patients received different lines of treatment; hormonal or chemotherapy according to their biological subtypes. Anti Her2 was added for Her2 positive patients. Pretreatment BCSC markers (CD44 & CD24) assessed by immunohistochemistry from primary or metastatic site.
Results: 33 patients (43.4%) premenopausal and 43 patients (56.6%) postmenopausal. Bone only metastasis in 12 patients (15.7%) however visceral ± bone metastasis were in 64 patients (84.3%). BCSC markers (CD44+ve&CD24-ve) were expressed in 32 patients (42.1%) while 44 patients (57.9%) were not expressing BCSC markers. BCSC was significantly presented in triple negative subtype breast cancer; there were 32 patients with BCSC expression out of them 15 patients (46.9%) had triple negative disease, 10 patients (31.3%) had luminal subtype and seven patients (21.9%) were Her2 amplified while, 44 patients without BCSC expression out of them 30 patients (68.2%) were luminal subtype, none patients (20.5%) had triple negative disease and five patients (11.4%) were Her2 amplified (P 0.006). 24 patients (31.5%) presented with visceral crisis; out of them 17 patients (70.1%) were expressing BCSC denoting more aggressive disease. 74 patients were candidate for response assessment. BCSC expressing patients showed poor response (five patients; 16.1% responsive versus 26 patients; 83.9% non-responsive) while non BCSC expressing patients showed better response to treatment (22 patients; 51.2% responsive versus 21 patients; 48.8% non-responsive) with significance relation (P 0.003). BCSC expression was associated with significant both short PFS (median, 18 months vs. 35 months; P = 0.001) and short OS (median, 26 months vs. 43 months; P = 0.003).
Conclusion: This study further validates BCSC expression as a poor prognostic biomarker correlated with poor response, short PFS and OS so, it could be used as a marker for tailoring treatment with different lines of therapies in further studies. BCSC expression was highly presented in triple negative subtype which is an aggressive disease that lacks different targets so, targeting BCSC may carry a hope in future for this group of patients.

PO59

EARLY AND ADVANCED TUMORS CAN USE TWO DIFFERENT STRATEGIES BASED ON INITIAL AND PROFOUND ABNORMALITIES IN MICRORNA PATTERN TO ACQUIRE DOXORUBICIN RESISTANCE

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Background: Doxorubicin is an anthracycline antibiotic that acts as a DNA intercalating agent, inhibiting the topoisomerase II and inducing the apoptotic cell death, mainly due to the accumulation of double-strand DNA breaks (DSB). Although doxorubicin is one of the most effective anticancer drugs, tumor cells often develop resistance to it. This research aims to identify in what way the abnormalities in microRNA (miRNA) expression profile in breast cancer cells can confer them the resistance to doxorubicin.
Methods: MiRNA targets within gene transcripts were predicted in silico using the TargetScan software.
Results: Binding sites for miRNAs miR-21, miR-96, miR-183 and miR-365, which are usually upregulated in breast cancer cells, were revealed in transcript of TOP2A gene encoding topoisomerase II-alpha. Transcripts of proapoptotic genes BID, BCL2L11 (BIM), BMF, BAX, BAK1, PMAIP1 (NOXA), and BBC3 (PUMA) as well as transcripts of tumor suppressor genes TP53 and PTEN carry targets for at least one of hyperexpressed miRNAs miR-19, miR-21, miR-23, miR-27, miR-29, miR-155, miR-181, miR-221/222 and miR-375. Downregulation of anti-onco-miRNAs let-7, miR-22, miR-34, miR-101, miR-125, miR-140, miR-143, miR-199, miR-200, miR-203, miR-204 and miR-205 allows overexpression of antiapoptotic genes BCL2, BCL2L1 (Bcl-XL), MCL1 and AKT1. In the same way, downregulation of the anti-onco-miRNAs can lead to overexpression of ABCA1/4/12, ABCB1 (MDR1), ABCB6, ABCC1 (MRP1) and ABCC3/5/8/11 genes encoding the ATP binding cassette (ABC) transporters that are responsible for effective efflux of anticancer agents and mediate multiple drug resistance. Moreover, multiple targets for the both up- and downregulated miRNAs were found in transcripts of XRCC5/6, PRKDC, LIG4, DCLRE1C, NHEJ1 (XLF), RAD50/51/51B/51D/52/54B/54L, MRE11A, NBN (NBS1), GEN1, ATM and ATR genes encoding the key elements of non-homologous end joining and homologous recombination pathways, responsible for DSB repair.
Conclusion: Resistance to doxorubicin can be simple achieved with tuning of the miRNA levels. In case of doxorubicin administration, strategy of early tumors consists in strengthening of onco-miRNAs expression, esp. miR-21, with the purpose to silence TOP2A gene as well as proapoptotic genes, thereby favoring the escape from immediate apoptotic death. Reinforcement of miR-21 expression is mediated by NF-kappaB, which activity is enhanced in response to genotoxic stress. Advanced tumors with more profound abnormalities in miRNA signature overexpress antiapoptotic genes as well as genes responsible for DSB repair and drug efflux and, therefore, can do without the TOP2A silencing.

PO60

ASSESSMENT OF THE CLINICAL FEATURES OF INFLAMMATORY BREAST CANCER PATIENTS IN PUERTO RICO REVEALS DISTINCT RECEPTOR STATUS

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Breast cancer (BC) is the most common cancer type and the first cause of cancer death in Puerto Rican women. Among BC subtypes, inflammatory breast cancer (IBC) is a rare, understudied, highly aggressive and lethal form of breast cancer that accounts for 1–5% of breast cancer cases in the United States. Existing IBC research focuses mainly on United States or European populations, limiting current knowledge of patient profiles in Hispanic populations. Given the unique genetic admixture that exists in Puerto Rico, we are interested in characterizing IBC within this population to broaden understanding of this disease. We designed a retrospective study which was deemed exempt by the UCC-IRB. Patient charts (n = 312) were reviewed at three clinics: Manatí Medical Center (Northern Puerto Rico), Fajardo Oncology Clinic (Eastern Puerto Rico), and Pavia Hospital (Metropolitan Area). From the examined records, 18 eligible subjects (~6%) with a new primary IBC diagnosis between 2012 and 2018 were identified. Data was collected from oncologist and pathologist reports. Mean age at diagnosis was 48 years, while mean age at death was 54 years. Age at IBC diagnosis is lower than the established average of 61 years of overall breast cancer patients in Puerto Rico. The five-year survival of our IBC population is documented at 14%, where of the 7 patients who were

diagnosed with IBC over 5 years ago, only 1 survived. On review, 67% of patients were negative for HER-2/neu receptor overexpression and there was a trend for a statistically significant difference (p = 0.09) compared to ER/PR status. These results differ from other studied IBC populations, which place HER-2/neu positivity in the range of 36–60% for IBC. Furthermore, 37% of our patients presented as triple negative for tumor markers (ER, PR, HER-2/neu) on pathology review. Our data suggests that within the context of the population studied, IBC is less likely to express HER-2/neu receptor compared to IBC in other populations. To improve patient outcomes for IBC it is critical to have foundational understanding of the disease presentation and course within a diverse group of patients. This study aims to set such a foundation within the population of Puerto Rico.

This project was sponsored by grants from the NIH/NIGMS (SC3GM111171) to MMM, NIH/NIMHD (8G12MD007583) to UCC, NIH/NIMHD (8U54MD007587) to UPR-MSC. This study was the outcome of the research experiences provided to the participants of the Intensive Development and Experiences in the Advancement of Research and Increased Opportunities (IDEARIO) and supported by the US Department of Education: Title V Grant Award # P031S160068.

PO61

A NEW ERA IN BREAST CANCER THERAPY: TUMOR TARGETING BY CONDITIONED MEDIUM FROM HUMAN AMNIOTIC MEMBRANE

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Background and Aim: Human amniotic membrane (hAM) is the innermost layer of fetal membranes, which surrounds the developing fetus and forms the amniotic cavity. hAM derived epithelial cells (hAECs) possess unique properties that make them excellent candidates for use in clinical application, such as low immunogenicity, promotion of epithelization, anti-inflammatory and antimicrobial properties as well as angio-mudulatory, anti-fibrosis and no ethical concern. We examined the effect of human amniotic, conditioned media (hAM-CM) on breast cancer cell lines proliferation.
Methods: Human placentas were obtained at term pregnancy during Caesarean sections from women with negative for HIV-I, and hepatitis B and C. The amnion was manually separated from the chorion and washed extensively in PBS. The amnion cut into 2×2 cm^2 pieces and cultured in epithelial up manner for overnight. After that, the conditioned medium collected and filtered. Three different cancer cell lines were seeded in 96-well tissue culture plates. After the density of cells reached 85% confluency the culture medium was exchange with hAM-CM. After 24, 48 and 72 h of the incubation, cell viability was determined by the MTT assay.
Results: Percentage cell viability of breast cancer cell lines includes MDA-MB-231, MCF-7 and BT-474 recorded by 65%, 71% and 53%, respectively.
Conclusion: Our results indicated that hAM-CM able to inhibit the proliferation of the cancer cells. Taken together, these results provide strong evidence that hAM-CM can be used as a safe and effective cancer-targeting cytotherapy for treating breast cancer.
Keywords: Breast Cancer, Human amniotic membrane, Conditioned medium, Viability, Invasion

PO62

THE EFFECT OF CHARACTERIZATION SELF NANOEMULSIFYING DRUG DELIVERY SYSTEM FROM THE COMBINATION OF GYNURA PROCUMBENS (LOUR) MERR AND PANDANUS CONOIDEUS LAM. EXTRACT ON PROLIFERATIVE AND APOPTOTIC ACTIVITY OF BREAST CANCER CELL LINE MCF-7

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Background: Breast cancer is the highest cause of death due to cancer in women. The therapeutic strategy in breast cancer such as cytotoxic agents is limited to the use of high doses. Chemoprevention compounds that have more non-toxic properties are believed to increase the efficacy of chemotherapy. The plants from Indonesia, Gynura procumbens (Lour) Merr also called Sambung Nyawa, and red fruit (Pandanus conoideus Lam.) has been shown to reduce HeLa and cc531 cells line. The aim of this study was to determine the effect of characterization of SNEDSS from a combination of Gynura procumbens extracts and Pandanus conoideus oil against MCF-7 cancer cell line.
Method: The method used is experimental study. Ethanolic extract of G. procumbens leaves was carried out by extracting dried powder using 96% ethanol. Red fruit oil was identified by GC-MS. Making SNEDSS preparations is done by mixing Tween 8 surfactant and propylene glycol co-surfactant. The mixture is homogenized with vortex for 1 minute. G. procumbens extract and red fruit oil were added and homogenized using vortex for 1 minute. The cells used in this study were MCF-7 from the Cancer Chemoprevention Research Center (CCRC) of the Faculty of Pharmacy UGM. Proliferation test was carried out by planting MCF-7 cells on microplate 96 to obtain a density of 5 × 10'3 and incubated 48 hours. The SNEDSS formulation was added to the well and sampling was carried out at the 1, 6, 12, 24, 48 and 72 hours. Cell proliferation was observed with MTT. The MCF-7 apoptosis test was planted on the coverlips which were inserted into the well microplate 24 to obtain a density of 3 × 104 cells and were added to 50–60% confluent. It was incubated with a wuji compound for 48 hours. The media was taken and washed with PBS. The slip cover containing the cell is lifted, placed on top of the glass object and added 10 μL 1X Working Solution Orange ethidium bromide, then allowed to stand for 5 minutes. Cells were immediately observed under a fluorescent microscope (Zeiss MC 80). The cytotoxic activity of the test compounds was expressed in IC50 (concentration which caused the death 50% of the cell population) which was analyzed by probit analysis using SPSS 11.5.
Result: Interventions of G. procumbens extract and red fruit oil in the SNEDSS preparation showed cell inhibition of 14–81% (IC50 77 ug/ml). Proliferation test showed that the SNEDSS formulation was able to inhibit MCF-7 cell growth at 12, 24, 48, and 72 hours ($p < 0.05$) and were able to improve the apoptotic activity.
Conclusion: Interventions of G. procumbens extract and red fruit oil in SNEDSS preparations can reduce proliferation and increase apoptosis activity significantly ($p < 0.05$).
Keywords: MCF-7, Gynura procumbens, Pandanus conoideus, SNEDSS

PR64

AN OVERVIEW OF BIOLOGICAL PROFILE IN INVASIVE LOBULAR CARCINOMA IN MEDICAL ONCOLOGY DEPARTMENT, ALGERIA

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Background: Invasive lobular cancers (ILC) constitute 5%, 15% of all invasive breast tumors, less common than invasive ductal carcinoma (IDC), and appear to have a distinct biology. The aim of our study is to determine the ILC biological profile collected in the department of oncology medical Tizi Ouzou hospital Algeria.
Materials and methods: We recorded the cases of 80 patients with ILC between January 2012 and January 2014. The aim of this study is to evaluate the clinical and pathological response, molecular profiling using RE, RP, KI67, HER2, and the follow up between (2012–2017).
Result: The average age of patients with ILC is 51 years, 40% women have postmenopausal status, all patients underwent mammography, diagnosed by a core needle biopsy, the commonest stage at presentation was stage III (42%).10 patients (12,5%) underwent a breast conserving surgery, and 87% a mastectomy.
The majority of cases were histologic grade II (SBR II), 47% of the tumors were estrogen and progesterone receptor positive, Her2 neu was reported to be negative in 18,75%, Her2 positive in 12,5%, the treatment consisted on: neoadjuvant chemotherapy in 30 cases (37,5%), adjuvant chemotherapy in 50 cases (62,5%), following by radiotherapy, and hormonal therapy (HT) was given to 47 patients (58,75%), and target therapy to 40% the follow up after 2 years, 10% had metastatic or loco regional recurrence: bone (15%), lung (10%), and liver in (5%), 50% of the cases remain in complete remission.
Conclusion: ILC are a heterogeneous group of tumors and the management decisions should be based on individual patient, biologic characteristic and biomarkers of the tumor.

Abstracts – Clinical Issues: Medical Oncology

OR65

T-DM1 EFFICACY AND ACTIVITY IN HER2-POSITIVE METASTATIC BREAST CANCER PATIENTS PROGRESSING AFTER FRONTLINE TAXANE PLUS PERTUZUMAB AND TRASTUZUMAB: AN ITALIAN MULTICENTER OBSERVATIONAL STUDY OF THE GRUPPO ITALIANO MAMMELLA (GIM) STUDY GROUP

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BP66

SEXUALITY ASSESSMENT IN WOMEN WITH ADVANCED BREAST CANCER

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Breast cancer compromises the sexual function and quality of life (QOL) of the patients. While research on the sexual health of women with early-stage cancer has grown extensively in the last decade, there is less information available to support the sexual needs of women diagnosed with advanced breast cancer. The identification and quantification of sexual dysfunction is the basis for the development of a multidisciplinary approach that promotes an improvement of the QOL by improving the sexual life of this population.
Purpose: To evaluate the quality of the sexual life of patients with advanced breast cancer.
Methods: A prospective cohort study conducted in women with advanced breast cancer who participate in support groups

centralized at the Laço Rosa Foundation, from February to May 2019. Demographic variables, clinical stage, and sexual information were collected by using the Sexual Activity Questionnaire (SAQ). This tool evaluates sexual dysfunction in three domains: pleasure, discomfort and habit, with its correlation varying according to the groups of patients compared. The questionnaire was completed by internet, after application of the Free and Informed Consent Form presented. Two questions were added to the SAQ, referring to communication about sexual issues with the partner and the patient's attending physician.

Results: A total of 91 women with advanced breast cancer were included. The majority of women (42.9%) were between 40 and 50 years of age and 39.6% were under 40 years of age. When we evaluated menopausal status, 70.3% of the women were already in menopause, either by age, or by treatments already performed. 60% of the participants were married and 47.3% of the respondents answered that it was important for their lives to maintain sexual activity in the last month. 51% of the patients reported having high fatigue for having sex on a daily basis, although 53.8% stated that they wanted to have regular sex. More than 55% report vaginal dryness or pain during penetration and only 20% report reaching orgasm during intercourse. Over 50% are dissatisfied with how often they engage in sexual activity. 57% reported talking to their sexual partners about their anxieties about sex, but 60% reported not mentioning these issues with their oncologist.

Conclusions:

1. Sexual habits are compromised in patients with advanced breast cancer;
2. Patients wish to maintain regular sexual activity even while under treatment;
3. Physicians should address the issue in order to guide patients to an improvement in their sexual life, and therefore QOL as a whole.

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PO67

RIBOCICLIB (RIB) + LETROZOLE (LET) IN PATIENTS WITH HORMONE RECEPTOR-POSITIVE (HR+), HUMAN EPIDERMAL RECEPTOR-2–NEGATIVE (HER2–) ADVANCED BREAST CANCER (ABC) BY DOSE INTENSITY: PRELIMINARY SUBGROUP RESULTS FROM THE PHASE 3B COMPLEEMENT-1 TRIAL

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Background: The cyclin-dependent kinase 4/6 inhibitor (CDK4/6i) RIB is approved for the treatment (tx) of women with HR+, HER2– ABC in combination with an aromatase inhibitor or fulvestrant as initial endocrine-based therapy, or in women who have received prior endocrine therapy (ET). A previous pooled analysis of the MONALEESA trials showed that efficacy did not vary for patients with or without dose reductions; however, this analysis did not assess tx duration or cumulative dose (relative dose intensity [RDI]). To further assess these findings, it is important to assess the same parameters in a less restricted patient population, without the strict inclusion/exclusion criteria of an RCT. Here we report interim safety and efficacy results by RDI in the ongoing phase 3b CompLEEment-1 trial, the largest CDK4/6i trial in ABC to date, which is evaluating RIB+LET in an expanded patient population.

Methods: Patients with HR+, HER2– ABC, ≤1 line of prior chemotherapy, and no prior ET for ABC received RIB (600 mg/day, 3 weeks on/1 week off) + LET (2.5 mg/day); men and premenopausal women received concomitant goserelin (3.6 mg subcutaneous implant) or leuprolide (7.5 mg intramuscularly) monthly. A planned interim analysis was conducted 20 months after the first patient began tx. RDI was calculated as (delivered dose intensity/standard dose intensity) × 100%.

Results: Of the 3243 patients who received ≥1 dose of study tx (data cut-off: 8 August 2018; median follow-up: 10.35 months), 812 patients had 1 dose interruption and 1779 patients had ≥2 dose interruptions. 765 patients had 1 dose reduction and 238 patients had ≥2 dose reductions. Median time to first dose reduction was 1.9 months (0–17.2). The most common reason for dose interruption and reduction was the presence of adverse events (AEs), observed in 784 (24.2%) and 2295 (70.8%) patients, respectively. Based on 30th, 60th and 90th percentiles for RDI, RIB patients were divided into 3 groups: RDI ≤83.3% (n = 963), RDI 83.3–97.8% (n = 983) and RDI >97.8% (n = 1297). AEs led to discontinuation in 174 (18.1%), 91 (9.3%) and 180 (13.9%) RIB-treated patients in the 30th, 60th and 90th RDI percentiles, respectively. Median time to progression was not reached. Estimated 9-month event-free survival probability was 79.4% (95% CI, 75.9–82.4), 82.1% (95% CI, 79.0–84.7) and 73.9% (95% CI, 70.6–76.8) in the 30th, 60th, and 90th RDI percentile patient subgroups, respectively.

Conclusions: RDI in the 60th percentile was associated with fewer tx discontinuations due to AEs compared with the 30th and 90th percentiles. More follow-up is required to assess the relationship between dose modifications and tx persistence. There was no relationship observed between RDI and risk of progression.

PO68

RIBOCICLIB (RIB) + LETROZOLE (LET) IN OLDER PATIENTS (PTS) WITH HORMONE RECEPTOR-POSITIVE (HR+), HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR-2–NEGATIVE (HER2–) ADVANCED BREAST CANCER (ABC): SUBGROUP RESULTS FROM THE PHASE 3B COMPLEEMENT-1 TRIAL

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Background: The CDK4/6 inhibitor RIB is approved in combination with endocrine therapy (ET) in women with HR+, HER2– ABC.

Although such pts are frequently aged >65 years, older pts are often under-represented in clinical trials and treatment decisions may be complicated by comorbidities and functional status. We report interim analysis results according to age for pts enrolled in CompLEEment 1 (NCT02941926), the largest CDK4/6i trial in ABC to date evaluating RIB+LET in an expanded population.

Methods: Pts with HR+, HER2– ABC and no prior hormonal therapy for ABC received RIB (600 mg QD 3 weeks on/1 week off) + LET (2.5 mg QD)(+goserelin 3.6 mg or leuprolide 7.5 mg [Q28D] in men and premenopausal women). The primary outcome was safety/tolerability. A planned interim analysis was conducted ~20 months after the first pt started treatment.

Results: Of 3246 pts enrolled who received ≥1 dose of study treatment (cutoff, 8 Aug 2018; median follow-up, 10.35 months), 2173, 764 and 309 were aged <65, 65–74 and ≥75 years, respectively. The most common all-grade adverse events (AEs) were: neutropenia (59.3%), nausea (33.5%) and fatigue (20.4%) in pts aged <65 years; neutropenia (56.4%), nausea (32.7%) and fatigue (22.9%) in pts aged 65 74 years; and neutropenia (53.1%), nausea (38.2%) and anaemia (25.6%) in pts aged ≥75 years. The most common grade 3/4 AEs in all age groups were neutropenia (<65 years, 43.2%; 65–74 years, 42.1%; ≥75 years, 40.8%), neutrophil count decreased (<65 years, 13.8%; 65–74 years, 12.6%; ≥75 years, 11.3%) and increased ALT (<65 years, 6.8%; 65–74 years, 9.2%; ≥75 years, 6.5%). AEs leading to discontinuation occurred in 234 (10.8%), 149 (19.5%) and 62 (20.1%) pts aged <65, 65–74 and ≥75 years, respectively. All grade hepatobiliary toxicity rates were constant (<65 years, 22.9%; 65–74 years, 24.9%; ≥75 years, 23.0%). All-grade QT interval prolongation rates increased with age (<65 years, 6.1%; 65 74 years, 8.2%; ≥75 years, 11.0%). Median time-to-progression was not estimable in any age group. Estimated 9 month event-free probability rates were 76.0% (95% CI 73.7–78.2), 81.7% (95% CI 77.9–84.9) and 86.2% (95% CI 80.1–90.5) in pts aged <65, 65–74 and ≥75 years, respectively. Overall response rates were 21.4% (95% CI 19.6–23.1), 17.1% (95% CI 14.5–20.0) and 22.3% (95% CI 17.8–27.4) in pts aged <65, 65–74 and ≥75 years, respectively; clinical benefit rates were 67.4% (95% CI 65.4–69.4), 63.0% (95% CI 59.4–66.4) and 64.4% (95% CI 58.8–69.7), respectively.

Conclusions: This subgroup analysis supports the safety and efficacy of RIB+LET across various age groups. Clinicians should not be deterred from considering RIB+LET in older pts based on age alone.

PR69

LONG-TERM RESPONDERS WITH METASTATIC BREAST CANCER (MBC) RECEIVING ERIBULIN: REAL LIFE EXPERIENCE

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Recently developed microtubule dynamics inhibitor eribulin mesylate (eribulin) differs from taxanes and vinca alkaloids by another mechanism of action. Here, we describe eribulin-treated MBC patients who achieved a long duration of response (DoR) in Russian clinical practice.

Methods: Data for 459 MBC pts treated with eribulin between January 1 2014 and Aug 1 2018 were collected from different Russian centers. All these health records were retrospectively analyzed.

Results: Our primary analysis revealed 87 (19%) pts with MBC with eribulin long DoR (8 months and more). Median age of these patients was 52 (32–68) yrs. ECOG status 0–1 was defined in 96% cases. Most of the pts (68%) had visceral metastases, median number of metastatic sites was 2 (1–5). Forty nine (56%) pts were ER/PR-positive, 25 (29%) – triple-negative, 13 (15%) – HER2-positive (eribulin was given in combination with trastuzumab). Eribulin was prescribed in the 2nd and 3rd lines of MBC treatment in 32 (37%) pts, in the 4th and later lines in 55 (63%) pts. Treatment continued until progression or intolerable toxicity. The median number of cycles was 10 (range 8–42). Complete and partial responses were achieved in 29 (33.3%) pts, stable disease in 58 (66.7%) pts, according to RECIST v.1.1. Median PFS was 9.58 months (95% CI 8.15–14.2). No unusual side effects were observed during the eribulin treatment. The main toxicity included neutropenia: Gr 2 in 6 (18.4%) pts and Gr 3–4 in 14 (16.1%) pts and peripheral neuropathy: Gr 2 in 5 (6%) pts and Gr 3 in 2 (3%).

Conclusions: This is a real-life description of clinical characteristics and outcomes of eribulin-treated MBC patients who achieved a long DoR in the Russian Federation. Further investigation is needed for identification of any specific patterns for long term response with eribulin, which may be associated with mechanism of action of eribulin.

PO70

THE METASTATIC RECEPTOR STATUS IMPACT ON FIRST-LINE TREATMENT PLANS AND CLINICAL OUTCOMES FOR RECURRENT METASTATIC BREAST CANCER

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Background: For more than two decades, breast cancer researchers have studied the benefits, risks and clinical importance of testing the receptor status of metastatic tumors. While there is growing consensus that the receptor status should be re-tested and the circumstances under which that re-testing should occur, there is little to no evidence that utilizing metastatic tumor receptor status test results improves the clinical outcomes of patients. In fact, there is evidence that changes to treatment plans based on this re-testing can be harmful to patient outcomes.

Materials and methods: A thorough literature review evaluated the current state of evidence related to altering patient treatment

plans based on the re-test results of metastatic tumors, when that status differs from the primary tumor. A retrospective observational study was performed utilizing tumor registry data from the University of Tennessee Cancer Institute. This registry was queried for recurrent metastatic breast cancer patients from the year 2000 through 2014, yielding 317 patient records from which 124 complete and relevant recurrent metastatic breast cancer records were obtained. Of the 124 patients, 92 had the receptor status of their metastatic tumor evaluated. Of those 92, 14 had receptor status results discordant with their primary tumor. Eight of the 14 patients had their first-line treatment plan based on their primary tumor receptor status; the remaining six had their first-line treatment plan based on the tumor receptor status of their metastatic tumor.

Results: The study sample revealed that discordant metastatic breast cancer patients, whose first-line treatment plan was based on their primary tumor rather than their metastatic tumor, had a longer median life expectancy of 40 months with a p-value of.049 utilizing the log rank test. To date, no other published research has explicitly made such a comparison.

Conclusions: The study's research outcomes demonstrate that basing first-line treatment plans for metastatic breast cancer patients on the receptor status of the primary tumor instead of the metastatic tumor receptor status extends the life expectancy of patients. A standard of care is proposed to impact national and international guidelines, and reveal the risks associated with changing the first-line treatment plans of metastatic breast cancer patients based on a discordant receptor status. This research impacts the lives of 15% of recurrent metastatic breast cancer patients.

New data is pending. I cannot guarantee it will be available by the conference. Thanks.

PO71

A PLAIN-LANGUAGE SUMMARY OF THE SOLAR-1 TRIAL: STUDYING ALPELISIB WITH FULVESTRANT IN PATIENTS WITH HR+, HER2– ADVANCED BREAST CANCER WHO HAD PREVIOUSLY RECEIVED AN AROMATASE INHIBITOR

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What is the purpose of this abstract?

This abstract describes results from SOLAR-1, a study of a new medicine for breast cancer called alpelisib. It is intended for people who want to learn about treating a kind of breast cancer that has spread to other parts of the body, known as metastatic or advanced breast cancer (ABC).

What is the SOLAR-1 trial and what did it study?

SOLAR-1 studied alpelisib in people with ABC. This breast cancer had hormone receptors on its cells (called hormone receptor-positive or HR+), but did not have human epidermal growth factor receptor-2 (called HER2-negative). This type of breast cancer, called HR+, HER2–, is fueled by hormones such as estrogen or progesterone but not by a protein called HER2. Doctors test tumors for these receptors to help decide an appropriate treatment for each patient. People in the SOLAR-1 trial had breast cancer that returned either during or after treatment with an aromatase inhibitor, which is a medicine that helps prevent the production of hormones that cause breast tumors to grow.

Alpelisib is a type of medicine called a targeted therapy because it targets tumor cells that have a mutation in the PIK3CA gene. About 40% of people with HR+, HER2– breast cancer have a PIK3CA mutation in their tumor that causes their tumors to grow.

In SOLAR-1, 284 people were assigned to receive alpelisib and fulvestrant and 288 to receive fulvestrant on its own. Fulvestrant is a medicine that blocks the effects of estrogen on tumor cells.

What did the SOLAR-1 study show?

Of the 572 people in SOLAR-1, 341 people had tumors with a PIK3CA mutation. In this group, the people who took both alpelisib and fulvestrant had approximately one-third lower risk of disease progression or death compared with those who took only fulvestrant. SOLAR-1 also showed that 1 in 4 people who took alpelisib and fulvestrant together had their tumors shrink, compared with only 1 in 8 people who took fulvestrant on its own.

Some people who took both alpelisib and fulvestrant had side effects, such as high blood sugar, diarrhea, feeling nauseous, lower appetite, and rash. Health care providers in SOLAR-1 were able to help reduce the high blood sugar by giving medicines to lower blood sugar (like metformin), implementing dietary changes, or by lowering the dosage or pausing or stopping treatment with alpelisib.

Other common side effects in these patients included vomiting, weight loss, mouth sores, tiredness, and lack of energy. A quarter of patients stopped taking alpelisib because of side effects.

Overall, the SOLAR-1 study showed that alpelisib and fulvestrant together was more effective than fulvestrant on its own in stopping disease progression in people with HR+, HER2– ABC whose tumor had a PIK3CA mutation.

PR72

QUALITY OF LIFE AND ITS ASSOCIATION WITH THE CLINICAL STAGE OF BREAST CANCER DIAGNOSIS

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Women diagnosed with breast cancer present numerous physical and psychosocial problems during treatment. These events directly affect their Quality of Life (QOL). The well-being of the patient is recognized as important for treatment. As well as the use of QOL and their questionnaires to access this well-being.

Purpose: To evaluate the QOL and its association with advanced clinical stage in the diagnosis of breast cancer.

Methods: A prospective study in women diagnosed with breast cancer, referred for treatment at National Cancer Institute, from 2016 to 2018. Demographic variables, clinical stage, and functional QOL scales were collected at diagnosis using a sociodemographic questionnaire from the EORTC-BR 23.1(1) A descriptive analysis

was performed through means and standard deviation, for continuous variables, and frequency for categorical variables. The association between demographic variables and advanced stage was performed through univariate and multiple logistic regression. Values of $p < 0.05$ were considered statistically significant.

Results: A total of 667 women were included, mostly with advanced clinical stage. Women were mostly aged over 50 years (65%), non-white skin color (64%) and with more than 8 years of study (67%). When evaluating the demographic factors associated with the advanced stage, it was observed that younger women had a 2.28-fold higher risk of advanced stage breast cancer (95% CI 1.63, 3.19, $p < 0.001$). In relation to the QOL functional scales to the diagnosis of breast cancer (EORTC-BR23), a mean score of 83 points for body image, 74 points for sexual satisfaction and 35 points for the future perspective scale were observed. When comparing functional scales according to clinical stage, women with advanced diagnosis had a 4-point deterioration in body image score ($p = 0.033$) and worsened by 9 points in the future perspective scale ($p = 0.003$). When the effect of age on the association between the advanced clinical stage and the body image scale was withdrawn, a worsening of 3.43 points (CI% −7.27 to 0.41) was observed, however, with no statistical significance ($p = 0.080$) among those with advanced stage. In the future perspective scale, the worsening was 6.70 points (95% CI −12.74 to −0.64), being statistically significant ($p = 0.030$).

Conclusions:

1. Women with advanced clinical stage had worse body image and worse future perspective to the diagnosis of breast cancer.
2. Health policies should be developed for the diagnosis of breast cancer to be done early, thus improving the QOL of the patients as a whole.

Reference

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PO73

REAL-WORLD OUTCOMES OF PATIENTS WITH ADVANCED BREAST CANCER TREATED WITH PALBOCICLIB: A MULTICENTER RETROSPECTIVE COHORT STUDY IN JAPAN

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Background: Palbociclib with letrozole or fulvestrant showed improved progression-free survival (PFS) in patients with advanced breast cancer (ABC) in the PALOMA 2 and PALOMA 3 studies. Efficacy was also demonstrated in an Asian subgroup. However, data among patients with ABC in later treatment lines and in those after everolimus is limited. The aim of this study was to investigate clinical predictive factors for efficacy among these patients.

Method: Between December 1, 2017 and March 31, 2019, consecutive ABC patients were recruited at 9 institutions in Western Japan (UMIN: 000036224). Clinical charts were retrospectively reviewed. The correlation between time to treatment failure (TTF), overall survival (OS) from the start of palbociclib and clinical background were investigated via univariate and multivariate analysis using Cox hazards models.

Results: In this study, 179 women were enrolled and 177 were available for outcome analysis.

Median age was 65 years (range 36–87) and 166 (93.8%) patients had good Eastern Cooperative Oncology Group (ECOG) performance status (PS) (0 or 1).

The number of patients by line of therapy at the initiation of palbociclib was 20 (11.3%) in first-line treatment, 27 (15.3%) in second-line, and 130 (73.4%) in third-line or later.

Ninety-seven patients (54.8%) had received previously chemotherapy and 51 patients (28.8%) had received everolimus. Palbociclib plus fulvestrant was the most frequently used treatment, in 117 (66.1%) patients, while palbociclib plus letrozole was used in 58 (32.8%).

Median follow-up at the time of data cut-off was 8.9 months. Median TTF was 6.3 months and median OS was not reached (NR). Median TTF of first-, second- and third-line treatment or later was 13.3 months (95% Confidence Interval [CI] 3.3- NR), 8.0 months (95% CI: 2.4–9.6), and 5.6 months (95% CI: 4.4–6.8), respectively.

The most common adverse event was neutropenia, which occurred in 92.7% of patients. Dose reductions were required in 131 (74.0%) patients. The number of patients requiring permanent discontinuation due to adverse events (AEs) was 20 (16.9%).

Univariate analysis showed no correlation between pretreatment with everolimus and TTF.

On multivariate analysis, first-line use of palbociclib, no liver metastasis, and a serum lactate dehydrogenase (LDH) level ≤300 IU/l were significantly associated with longer TTF.

Conclusion: In this real-world assessment, the number of cases of treatment failure was higher those of the PALOMA studies, and TTF tended to be shorter in 1st line therapy with palbociclib.

Our study suggested that liver metastasis and LDH level might predictive factors for endocrine therapy plus palbociclib, although further studies were needed.

PO74

A PLAIN-LANGUAGE SUMMARY OF THE COMPLEEMENT-1 STUDY: RIBOCICLIB AND LETROZOLE AS FIRST LINE THERAPY IN A STUDY OF 3,246 PEOPLE WITH ADVANCED BREAST CANCER

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What is the purpose of this abstract?

This abstract describes results from CompLEEment-1, a trial that studied a medicine called ribociclib, taken with another medicine called letrozole, for treating breast cancer. This combination has been shown in smaller studies to temporarily stop the growth or reduce the size of breast cancers that have spread to other parts of the body; known as metastatic or advanced breast cancer. CompLEEment-1 tested the effectiveness and safety of this combination in a larger, more diverse group of people.

What is CompLEEment-1 and what did it study?

This trial studied ribociclib with letrozole in women and men with advanced breast cancer that did not have human epidermal growth

factor receptor-2 on their cancer cells (called HER2-negative, or HER2– breast cancer), but did have hormone receptors (called hormone receptor-positive, or HR+). The growth of this type of breast cancer is fueled by the hormone estrogen but not by the HER2 protein. People with HR+, HER2– advanced breast cancer often receive a treatment called endocrine therapy, which eliminates or blocks the estrogen that causes tumor growth. However, endocrine therapy works well only in some people and eventually stops working in almost all. Until recently, endocrine therapy was the main treatment for people with HR+, HER2– advanced breast cancer. Ribociclib is a new medicine that blocks 2 proteins called CDK4 and CDK6, which make tumors grow in a way that isn't dependent on hormones. In CompLEEment-1, people who had not yet received endocrine therapy for their advanced breast cancer received both ribociclib and an endocrine therapy called letrozole. This study has more people and more diverse groups than previous trials of this medicine combination, including men, premenopausal women, people over 70 years old, and people who had already received chemotherapy for metastatic disease.

What did CompLEEment-1 show?

In total, 3,246 people joined the trial. Common side effects were low levels of blood cells that fight infection, feeling nauseous, tiredness, and diarrhea. Side effects were usually easily managed by lowering the dose, stopping treatment for a short period, or stopping treatment permanently. One in 8 people had to stop taking ribociclib or letrozole because of these side effects.

About 1 in 5 people had shrinkage of their tumors after they started taking ribociclib and letrozole. Two out of 3 people had tumors that shrank or had no growth or spread for 6 months or longer.

Overall, CompLEEment-1 showed that many people responded to ribociclib and letrozole in a similar way to previous, much smaller studies. This study provides more information about taking ribociclib and letrozole in more diverse groups of people with HR+, HER2– advanced breast cancer.

PO75

EFFICACY AND TOLERABILITY OF LOW DOSE METRONOMIC CHEMOTHERAPY (LDMC) IN PATIENTS WITH METASTATIC BREAST CANCER (MBC): A SINGLE CENTER EXPERIENCE IN WEST SWEDEN

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Background: Patients with MBC have incurable disease. Therapy is aimed to prolong and improve quality of life by minimizing cancer-related symptoms without causing major toxicities. Patients with low performance status due to comorbidities, cancer and the elderly are not suitable for conventional doses of chemotherapy. There is a need for more treatment options in heavily pre-treated and endocrine resistant patients. For this heterogeneous group low doses of continuous chemotherapy with Capecitabine and Cyclophosphamide (CX) is an attractive alternative to more toxic or expensive regimens.

Aim: To retrospectively investigate outcome of patients treated with LDMC using CX at our hospital.

Material and Methods: All patients with MBC starting treatment with CX May 2014–Dec 2017 were identified using our drugs prescription database. Time on treatment for CX was used as a surrogate marker for efficacy and correlated to subtype showed in a Kaplan-Meier plot. The individual time on treatment for patients and reasons for ending treatment were presented as descriptive data using a Swimmer plot. Patients were divided according to breast cancer subtype and numbers of previous treatments were also shown individually. Survival was reported as well as toxicities.

Results: 86 patients treated with CX were identified. Luminal (n = 65), Triple negative, TNBC (n = 11) and HER2-positve (n = 10) cancers. Median age was 63 years (32–90). 49 (56,9%)patients received chemotherapy (neo)adjuvant, 54 (85,7%) of Luminal patients received adjuvant endocrine therapy. Disease free interval was 6,5 years for the whole group but 1,6 years only for the TNBC. The median number of palliative endocrine treatments in the Luminal patients was one as well as the median number of palliative chemotherapy lines in the whole group. Anthracyclines was given to 13 patients (14,9%) and Taxanes to 38 patients (42,7%) in metastatic setting. The median time on treatment with CX was 6,4 months for Luminal, 3,9 months for TNBC and 6,2 for HER2-positive patients. Dose reductions were made in 52 (60,4%) patients mainly due to hand-foot syndrome, diarrhea or leucopenia but only 16 (18,6%) patients discontinued treatment due to toxicity. 55 (63,9%) patients had died at the cut off date in October 2018.

Conclusions: The efficacy of CX in this fragile group of MBC patients was comparable with other chemotherapeutic regiments in metastatic setting and varied widely depending on subtypes. The tolerability was good after dose reductions. Many patients had died at the end of the study reflecting the advanced stage of the disease. Further studies are needed to determine the biological effects of LDMC-CX as well as patient reported outcomes including aspects of health economics.

PO76

THE INCIDENCE OF QT INTERVAL PROLONGATION IN PATIENTS WITH HORMONE RECEPTOR-POSITIVE, HER2-NEGATIVE METASTATIC BREAST CANCER TREATED WITH RIBOCICLIB COMBINED WITH ENDOCRINE THERAPY IN A REAL-WORLD SETTING

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Background: In hormone receptor-positive (HR+), HER2-negative (HER2-) metastatic breast cancer (MBC), endocrine treatment combined with an inhibitor of cycline-dependent kinases 4/6 (CDK4/6i) has now widely been accepted as the new standard-of-care. Among different agents available, the CDK4/6i ribociclib (RIBO) has been documented to be able to prolong cardiac repolarization as measured by the corrected QT interval (QTc). Cardiac monitoring by consecutive echocardiograms is thus recommended in MBC patients (pts) while being on RIBO treatment. However, little is known about the incidence and severity of QTc prolongation and their likelihood to deteriorate cardiac function during RIBO therapy in the clinical routine which should thus be further analyzed in the present investigation.

Methods: A total of 28 pts with HR+, HER2– MBC were included, 7 pts were premenopausal and 21 were postmenopausal. All premenopausal pts underwent ovarian suppression with goserelin (ZOL). Endocrine treatment consisted of letrozole (LET) in 21 pts, exemestane (EXE) in 1 pt and fulvestrant (FULV) in 5 pts. In all pts, QTc was measured prior to start of RIBO and thereafter every 2–4 weeks (wks) for a maximum of 292 days while being on treatment. Mean QTc values were calculated at baseline (BL) and at 6 consecutive time points: #1 (d7–21 from BL), #2 (22-42d from BL), #3 (d43-63 from BL), #4 (d64-84 from BL), #5 (d85-105 from BL), #6 (d105-126 from BL). Changes of mean QTc values were analyzed by using repeated measure ANOVA with $p < 0.05$ indicating statistical significance.

Results: QTc showed a slight but insignificant increase during RIBO therapy ($p = 0.239$) with a maximum at #3. Whenever observed,

QTc prolongation did not exceed 110% from BL in all but 4 pts. In the latter, QTc returned to values approximating the BL level in 3 pts. OTc exceeding 480 ms was not observed at any time of the observation time. At BL, 19 pts had a normal ECG whereas 9 pts had preexisting non-serious ECG abnormalities other than long QT syndrome. 5 pts with normal ECG at BL developed ECG abnormalities during treatment. These changes did all not reach clinical significance and remained largely asymptomatic. No patient experienced a significant deterioration of cardiac ejection fraction.
Conclusion: Clinically meaningful QTc prolongation did not occur in this real-world population of HR+, HER2– MBC pts treated with RIBO and endocrine agents. Moreover, cardiac function did not deteriorate during RIBO therapy neither in patients with normal ECG nor in those with (preexisting or newly diagnosed) ECG abnormalities. QTc prolongations induced by RIBO may thus mostly be of minor importance in the clinical routine.

PO77

NEW INSIGHTS INTO HOW FIRST RECURRENCE AT MULTIPLE METASTATIC SITES INFLUENCES SURVIVAL OF PATIENTS WITH HORMONE RECEPTOR-POSITIVE, HER2-NEGATIVE BREAST CANCER: A MULTICENTER STUDY OF 271 RECURRENT METASTATIC PATIENTS

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Background: First metastatic site is a factor used to determine the initial therapeutic strategy for hormone receptor-positive (HR+), HER2-negative (HER2–) breast cancer; however, there is currently little evidence that the first metastatic sites influence patient prognosis. In this study, we aimed to identify patterns of first metastatic sites that significantly correlated with survival after recurrence, which may help to determine the most beneficial therapeutic strategy in these patients.
Methods: We performed a retrospective review of records from 271 patients with recurrent metastatic HR+/HER2– breast cancer, who were diagnosed between January 2000 and December 2015 at Sakai City Medical Center and Kindai University Hospital, Japan. We assessed survival after recurrence according to patterns of first metastatic sites, and identified significant prognostic factors among the patients with multiple metastatic sites at first recurrence.
Results: Prognosis was significantly worse among patients with multiple metastatic sites at first recurrence than patients with a single metastatic site ($p < 0.001$). Among patients with multiple metastatic sites, prognosis was significantly worse in patients with liver metastasis ($p < 0.001$), brain metastasis ($p = 0.027$), or a shorter disease-free interval (DFI) (<2 years) ($p < 0.001$). Multivariate analysis confirmed that independent prognostic factors for patients with multiple metastatic sites at first recurrence included liver metastasis (HR: 3.145; 95% CI: 1.802–5.495), brain metastasis (HR: 3.289; 95% CI: 1.359–7.937), and shorter DFI (<2 years) (HR: 3.082; 95% CI: 1.669–5.694). Among patients with multiple metastatic sites that included the liver, prognosis did not differ between patients with and without diffuse lesions in the liver ($p = 0.124$).
Conclusion: A metastatic pattern of first recurrence at multiple metastatic sites may be related to poor prognosis. Moreover, among patients with multiple metastatic sites, both diffuse and non-diffuse liver metastases may be independently associated with worse prognosis. Initial use of more advantageous treatments in patients with first recurrence at multiple metastatic sites, particularly when including liver metastasis, could provide more beneficial effects and support a better prognosis.

PO78

PALBOCICLIB IN COMBINATION WITH ENDOCRINE THERAPY IN PATIENTS WITH METASTATIC BREAST CANCER: SEVERE EARLY HEMATOLOGICAL TOXICITY PREDICTIVE FACTORS

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Purpose: The addition of palbociclib to endocrine therapy in HR+ metastatic breast cancer patients improved clinical outcomes but increased the hematological toxicity risk too (neutropenia, thrombocytopenia, anemia). Here, we examined predictive factors of severe early hematotoxicity in those patients.
Aim: To identify predictive factors of severe early hematotoxicity in patients with receiving palbociclib for HR+ metastatic breast cancer.
Methods: Records of patients with HR+ metastatic breast cancer treated with palbociclib between December 2016 and January 2019 at the Institut Sainte Catherine were retrospectively reviewed. Severe early hematotoxicity was defined as the occurrence of a grade 4 hematological toxicity or a grade 3 hematological toxicity requiring a dose reduction, during the first three cycles. Factors predicting toxicity were identified using statistical analysis.
Results: Records were extracted for 181 patients; median age was 67 years and 99.4% were female. 46 patients (25.4%) developed an early severe hematotoxicity. Factors that independently predicted severe early hematotoxicity in multivariate analysis was ECOG (OR = 3.77; 95% CI; p = 0,024) and a history of bone radiotherapy in the year (OR = 0.30; 95% CI; p = 0,003). Neutrophils count was also predictive factor of severe early hematologic toxicity (95% CI; $p < 0.01$).
Conclusions: In this real-world assessment of clinical outcomes and history in French patients with HR+ metastatic breast cancer having received palbociclib, ECOG and a history of bone radiotherapy in the year are predictive factors of severe early hematotoxicity. Low neutrophils count, even above the standard are also predictive factors of severe early hematotoxicity.

PO79

18-NAF PET-CT AND METASTATIC BREAST CANCER IN AN IRISH CENTRE

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Introduction: 18-NaF PET-CT in select breast cancer patients has an evolving role in the diagnosis of bone metastases. It is a useful adjunct for patients where there is concern of metastatic disease on imaging and can serve as a key diagnostic tool.
Method: We undertook a retrospective review of breast cancer patients who had underwent 18-NaF PET-CT in our institution. Correlation between 18-NaF PET-CT and comparator imaging was assessed.
Results: 38 breast cancer patients (37 female, 1 male) underwent 18-NaF PET-CT scans in our centre between January 2013 to December 2018. 32 patients (84%) had prior imaging suspicious or positive for metastatic disease. Of the 38 patients, 34 (89%) had prior Technetium-99m methylene-diphosphonate bone scintigraphy. 18 of these patients had negative, 14 indeterminate and 2 positive bone scintigraphy, respectively. 7 patients who had equivocal bone scintigraphy had confirmed metastatic disease on 18-NaF PET-CT. 6 patients who had equivocal bone scintigraphy had

negative 18-NaF PET-CT scans. 1 patient who had equivocal bone scintigraphy also had an indeterminate 18-NaF PET-CT. 15 patients had both bone scintigraphy and 18-NaF PET-CT scans negative for metastatic disease. 1 patient had a negative bone scan, a concerning CT and an indeterminate 18-NaF PET-CT. 2 patients had negative bone scans, concerning CT scans and positive 18-NaF PET-CT scans for bone metastases. 1 patient had positive bone scintigraphy but negative 18-NaF PET-CT. 4 patients did not have bone scintigraphy performed prior to 18-NaF PET-CT. Of these 4 patients, 3 had suspicious MRI scans and 18-NaF PET-CT demonstrated benign disease, 1 patient had a concerning CT scan and 18-NaF PET-CT also demonstrated benign bone disease. 6 (7%) patients' whose previous imaging was negative for metastatic disease also had negative 18-NaF PET scans.
Conclusion: 32 breast cancer patients in our centre had prior imaging suspicious or positive for metastatic disease. Subsequent 18-NaF PET-CT scans demonstrated benign disease in 26 of these patients, metastatic disease in 10 patients and 2 patients had indeterminate results. Our six-year experience of 18F-NaF PET-CT has shown an advantage over routine bone scanning in the complex patient with greater diagnostic confidence and fewer equivocal studies.

PO80

HER2-POSITIVE STAGE IV MALE BREAST CANCER: PREVALENCE AND SURVIVAL DATA FROM THE UNITED STATES

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Background: Male breast cancer is a rare disease where data about epidemiology and survival are usually scarce. Surveillance, Epidemiology, and End Results (SEER) Program allows for data analysis of cancer patients diagnosed in a cohort of registries that can be generalized to the United States. In this study, we aimed to use SEER in order to explore the prevalence of HER2-Positive disease in males diagnosed with stage IV breast cancer. We also aimed to spotlight on survival of HER2-positive male patients and comparison of this survival with their female counterparts'.
Methods: Data were obtained using SEER*Stat version 8.3.5 where (SEER 18 Regs Nov 2018 Submission) was used as the data source. Only cases with malignant behavior, known age, and those in research database were included. Analysis was made for patients who were diagnosed with stage IV disease between 2010 and 2015, whose primary site was marked as "Breast", and whose HER2neu status was "Positive". Data were exported using case-listing session in SEER*Stat and were analyzed using SPSS version 25.
Results: A total of 227 male and 19427 female breast cancer cases were diagnosed in the study period with stage IV disease. HER2 status was positive in 16.7% of cases (n = 38). HER2-Positive cases showed a median survival of 34 months (95% Confidence Interval: 15.928–52.072) compared with 29 months in HER2-negative cases (95% Confidence Interval: 22.083–35.917) (p = 0.001). By this survival, they were comparable to their female counterparts who showed a median survival of 36 months and 27 months, in HER2-Positive and HER2-Negative cases, respectively.
Conclusions: HER2-Positive male breast cancer occurs in 16.7% of patients with stage IV disease. It shows a comparable survival with HER2-Positive female breast cancer and higher survival than HER2-Negative male and female breast cancer.

PO81

MEN WITH BREAST CANCER – SURVIVAL AND PROGNOSTIC FACTORS IN THE METASTATIC SETTING IN BULGARIA

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Introduction: Survival of male breast cancer (male BC) patients is still significantly lower especially in the metastatic setting compared to women. We aimed to investigate and look for the possible reasons for the survival differences among Bulgarian male BC patients in stage IV.
Materials and methods: This is a retrospective population-based study of 520 male BCs patients diagnosed between 2002 and 2013 in Bulgaria. Data about patients with metastatic disease diagnosed prior to 2014, tumor characteristics, treatment and survival were obtained from the National Cancer Register. The last date of follow up was 1 April 2019. A total of 91 patients with metastatic disease were available for analysis: 26 had progressed from M0 to M1 (ycM1) and 65 had de novo cM1 at diagnosis. Statistical analysis was done with IBM SPSS. Kaplan-Meier curves were used to analyze differences in survival.
Results: The observed 5-year survival of ycM1 patients was 30.1% and of de novo cM1 patients, 3.1%. There was a significant difference of 20.4 months in the 5-year survival between ycM1 and de novo cM1 patients with mean overall survival (OS) of 36.6 months compared to 14.1 months, respectively (log rank $p < 0.0001$). An independent-samples t-test was then conducted to investigate the difference in mean age in patients ycM1 vs cM1 patients. There was a significant difference in the scores for ycM1 (mean 57.19 years, SD 10.47) and de novo cM1 (mean 66.3 years, SD = 11.86)($p < 0.001$). Patients with hormone receptor (HR) positive tumors have about 10 months longer mean OS compared to HR negative patients (30.4 vs 19.5 months), independently of endocrine therapy (ET) use. This difference couldn't reach significance, probably due to the small number ER negative patients. Of all 91 patients, only 25 (27.5%) have received ET for metastatic disease and their mean OS was significantly longer (30.2 months) as compared to patients who had not received ET (16.9 months) (log rank $p = 0.025$). 16 (17.6%) of all metastatic patients had bone only disease cM1 (oss) and they had longer mean OS as compared to patients with visceral disease (27.5 vs 19 months, respectively, log rank $p = 0.142$).
Conclusion: Patients with ycM1 male MBC live significantly longer compared to de novo cM1. The positive HR status and bone-only dissemination were identified as independent positive prognostic factors in the metastatic setting. Our results suggest that the younger age of ycM1 patients compared to de novo cM1 may be a reason for the survival differences. The significant underuse of ET in the metastatic setting for HR positive male BC may be a potential reason for the shorter survival in Bulgaria.

PO82

MOLECULAR PROFILE OF CASES WITH STAGE IV BREAST CANCER IN THE UNITED STATES (2010–2015)

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Background: Breast cancer can be currently classified into different molecular subtypes based on ER, PR, and HER2neu status. In this study, we aimed to explore the molecular profile of cases diagnosed with stage IV breast cancer in the United States between 2010 and 2015 using SEER (Surveillance, Epidemiology, and End Results Program) database. We report on each receptor's prevalence as well as the magnitude of presence for each of the molecular subtypes.
Methods: Data were obtained using SEER*Stat version 8.3.5 where (SEER 18 Regs Nov 2018 Submission) was used as the data source. Only cases with malignant behavior, known age, and those in research database were included. Analysis was made for patients who were diagnosed with stage IV disease between 2010 and 2015, whose primary site was marked as "Breast" or who were listed as "carcinoma of breast" in the AYA site recode variable. Data were exported using case-listing session in SEER*Stat and were analyzed using SPSS version 25.
Results: 19,654 cases were identified with a median age of 62 years. Females represented 98.8% (n = 19427) of the included cohort. ER expression tested positive in 70.2% of cases (n = 13801), PR tested positive in 56.1% of cases (n = 11,029), while HER2 tested positive in 21.1% (n = 4147) of cases. Luminal A cases represented the majority of cases with a prevalence of 52.6% (n = 10,337) and a median survival of 32 months (95% Confidence Interval: 31.1–32.9), followed by Luminal B cases occurring in 13.7% of cases (n = 2700) with a median survival of 40 months (95% Confidence Interval: 37.6–42.4), Triple Negative subtype which counted for 11.2% of cases (n = 2206) and showed a median survival of 10 months (9.3–10.7), and HER2 Enriched subtype shown in 7.2% of cases (n = 1401) with a median survival of 28 months.
Conclusions: Molecular profile of cases with stage IV breast cancer suggests that the majority of cases lies within the ER-Positive, PR-Positive, and HER2-Negative groups. As for the molecular subtype, Luminal A cases represent most of the cases, while Luminal B cases show the highest survival.

PO83

REAL-WORLD SURVIVAL DATA OF PALBOCICLIB IN ADVANCED AND METASTATIC BREAST CANCER: A MULTICENTER EXPERIENCE IN LEBANON

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Background: Approximately 70% of all breast cancer cases are hormone receptor (HR) positive. One of the most important treatment strategies for HR positive, human epidermal growth factor receptor 2 (HER2) negative subtype was endocrine treatment monotherapy by targeting estrogen receptor or aromatization and thus reducing estrogen level. However, resistance to this treatment and disease progression is universal.
In the past few years, palbociclib, an oral inhibitor of cyclin dependent kinase 4 and 6 have been approved by the FDA, as a new standard of care in the metastatic or locally advanced setting either as front line therapy or after progression.
The aim of our study is to describe the real world experience with palbociclib.
Methods: Eligible patients had histologically confirmed metastatic breast cancer estrogen and progesterone receptors positive and HER2 receptor negative. Palbociclib was given 125 mg orally for 21 consecutive days of a 28 day cycle.
Patients were followed over one year. Primary objective was progression free survival (PFS). Tumor response and treatment tolerability were defined as secondary objectives.
Results: From 2002 to 2018, we identified a total of 44 breast cancer patients. All patients were females. The median age at diagnosis was 57 years. Among all the patients, 33.3% had visceral metastasis, 35.9% had non visceral metastasis and 30.8% had the two types of metastasis. 64.1% were de novo metastatic and 35.9% were not de novo metastatic. 82.5% had less than 3 sites of metastasis. 47% of the study patients had received both chemotherapy and endocrine therapy during treatment course, and 13% had only received prior adjuvant endocrine therapy 28.26% took only prior systemic therapy for breast cancer. By the cutoff date for the final analysis (1/11/2018), a total of 8 events of disease progression occurred, no death events happened. The median progression free survival was 262.6 months for palbociclib combined with letrozole as first line.
Conclusions: no data was published before on palbociclib in Lebanon. We are the first to describe these characteristics. Our result (PFS 26 +/– 2.6 months) is in conformity with the PFS obtain with PALOMA-2 (24 months).

PO84

THE IMPORTANCE OF HER2-ECD EXPRESSION CHECK FOR SELECTION OF ANTI-HER2 REGIMEN FOR BETTER OUTCOME OF HER2+ ADVANCED AND RECURRENT BREAST CANCER

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Introduction: Since the target of anti-HER2 drugs in the standard 1st, and 2nd line regimens for HER2-positive advanced and recurrent breast cancer (HER2+ABC) is the extracellular domain (ECD) of HER2, they could not be effective to HER2-ECD-negative HER2+ ABC (intracellular domain (ICD) type HER2+ ABC). Currently the HER2 status is evaluated by ICD expression as an index, however, ECD expression does not always accompany with ICD expression. Therefore, we investigated the frequency of ICD type HER2+ ABC and the involvement of the loss of ECD in its prognosis in order to improve the outcome of HER2+ABC.
Methods: Informed written consent was obtained from the patients with HER2+ breast cancer according to the IRB of Nishiwaki Municipal Hospital. The HER2-ECD was evaluated by the antibody recognizing only ECD of HER2 and the expression was scored and defined as negative (score 0 and 1+), equivalent (score 2+) and positive (score 3+) according to the standard scoring and definition criteria for HER2 status. If mixed, the higher score was used for final identification. In addition, the response of the standard 1st, and 2nd line regimens to HER2+ABC was evaluated and long SD, PR, CR were considered as sensitive.
Results and discussion: Forty patients agreed to participate and 10 of them were ABC patients (8 recurrent and 2 stage IV patients). Ten of 30 (early breast cancer (EBC)) patients, and 6 of 10 ABC patients were evaluated as HER2-ECD-negative. The percentage of ICD type HER2+ breast cancer in HER2+ EBC, and ABC was 30, and 60%, respectively. The sensitivity to the standard 1st, and 2nd line regimens to HER2+ABC was closely related to the ECD expression, i.e. long SD and better outcome of the main lesions were achieved for all ECD-positive HER2+ ABC patients, in contrast, all the ICD type HER2+ABC patients resulted in early PD and lapatinib + capecitabine regimen was effective.

Case: Stage IV with liver metastasis became cCR by T + P + PTX and successfully maintained by T + P for 4 years before the primary breast lesion not liver metastasis relapsed. The rebiopsy of the relapsed lesion probed that it lost ECD. The treatment with L + C was effective to cCR. The serum HER2 did not increase, which suggested that the progressive tumors might be ECD-negative.
Conclusion: The frequency of ECD-negative HER2+ABC was remarkably high and it was suggested that the check of ECD expression of the recurred or metastasized lesion might be important to select anti-HER2 drugs for better outcome and to use them more efficiently and effectively. More cases are needed not only to confirm the conclusion but also to clarify the mechanism of the loss of ECD and the biology of the ICD type HER2+ breast cancer.

PO85

CDK INHIBITORS PLUS LETROZOLE IN FIRST-LINE TREATMENT HR-POSITIVE/HER2-NEGATIVE ADVANCED BREAST CANCER (ABC) WOMEN WITH VISCERAL DISEASE: TIME TO TURN PAGE?

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Introduction: For more than 50 years, endocrine agents have been the mainstay of treatment of HR-positive/HER2-negative breast cancer, instead chemotherapy was reserved primarily to patients with visceral disease. New and acquired resistance to hormonal blockade has led to the development of targeted treatments, such as selective cyclin-dependent kinase 4/6 inhibitors (CDKi). The aim of this study was to evaluate the efficacy of CDKi plus letrozole in HR-positive/HER2-negative Advanced Breast Cancer (ABC) patients with visceral disease, postponing the use of chemotherapeutic agents.
Methods: This retrospective study included postmenopausal women with confirmed HR-positive/HER2-negative ABC, untreated for metastatic disease. We enrolled patients treated with CDKi plus letrozole (group A) and chemotherapy (prior CDKi approval, group B) in first-line therapy. Primary endpoint was Time to Treatment Failure (TTF). Secondary endpoint was toxicity.
Results: Records were extracted for 53 patients treated at Our Oncology Department. We evaluated 19 patients treated with CDKi plus letrozole (group A) and 34 patients treated with chemotherapy (group B). Chemotherapeutic schemes included: metronomic therapy with capecitabine in monotherapy or capecitabine plus vinorelbine and platinum/taxanes/anthracyclines/gemcitabine-containing regimens. Median age was 56 years (range 40–75 years) and 54 years (range 35–76 years) in group A and B, respectively. Median number of metastatic sites was 3 (range 1–5) in group A and 2 (range 1–3) in group B, respectively. Visceral metastatic sites were found in 9/19 women of group A and 16/34 women of group B. In group A, 12/19 patients were on treatment and 7/19 patients had progression of the disease with median TTF of 7 months. In group B, 4/34 patients were on treatment and 30/34 patients had progression of the disease with median TTF of 8 months. In group A, CDKi dosage was reduced mostly for neutropenia without jeopardizing the continuation of therapy in 6/19 patients; no patients stopped the treatment. In group B, the treatment was interrupted for high grade toxicities in 4/34 patients.
Conclusions: This retrospective study confirmed the safety and efficacy of CDKi in first-line treatment, delaying the need of chemotherapy in women with HR-positive/HER2-negative ABC. The approval of CDKi in the first-line treatment shifted forward over time the need for chemotherapy also in patients with visceral disease. Nowadays, the main limitation of this study is the shortness of the follow-up period for women treated with CDKi plus letrozole due to the recent approval of CDKi, but the results are encouraging in respect of quality of life. Future perspective studies are needed to confirm our results.

PO86

ERIBULIN USE AND PALLIATIVE CARE REFERRAL RATES IN METASTATIC BREAST CANCER: KENT ONCOLOGY CENTRE EXPERIENCE

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Background: Eribulin is approved by NICE in patients with metastatic breast cancer (MBC) who have received at least two prior chemotherapy regimens, based on the improved overall survival with third line Eribulin compared to treatment of physician's choice (13.1 vs 10.6 months) observed in the EMBRACE trial.
However, retrospective institutional series show that outcomes and survival rates after third line chemotherapy for MBC are poor; median survival is frequently less than one year.
We reviewed Kent Oncology Centre (KOC) patient outcomes and evaluated whether patients receiving third or subsequent line palliative Eribulin had been referred to community palliative care (PC) services.
Methods: MBC patients who started Eribulin treatment between January 2016, December 2018 were identified. Data was collected retrospectively from medical records and GP practices on: age, receptor status, site of metastases, previous treatment, number of Eribulin cycles received, reason for stopping treatment, and dates of progression, death and palliative care referral. SPSS was used for the statistical analyses.
Results: 81 patients were identified. Mean age was 58 years (range 35–79). 70% of patients had ER+ and HER2– tumours, 9% were HER2+ and 21% were triple negative.
Eribulin was used 2nd line in 14.8%, 3rd line 56.8%, 4th line 24.7% and 5th line 3.7% of patients.
The median number of Eribulin cycles delivered was 4 (range 0.5–24). The main reasons for stopping Eribulin treatment were progressive disease (69.9%), death (12.3%), declining performance status (6.8%) and toxicity (5.5%).
Median progression free survival (PFS) was 3.0 months (95% confidence interval 2.6–3.4 months).
Median overall survival (OS) was 7.8 months (95% confidence interval 5.2–10.4 months).
46% of patients were already referred to community PC services at the start of treatment, 6% were referred during treatment and up to 36% were not referred. 12% of patients declined PC involvement.
Conclusions: Eribulin use at KOC was largely compliant with NICE guidance as 3rd line or subsequent treatment. The inferior OS and PFS observed compared to the EMBRACE data may reflect Eribulin use in later lines of treatment.
Less than half of patients had been referred to palliative care teams by the time they commenced Eribulin. Given the poor outcomes with third and subsequent lines of palliative chemotherapy we recommend and will be initiating earlier referral to PC services to maximise quality of life for patients with incurable MBC.

PO87

MEN WITH BREAST CANCER – ROLE OF ENDOCRINE TREATMENT FOR DISEASE PROGRESSION

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Introduction: Due to the rarity of this disease, men with breast cancer (BC) are managed generally following the recommendations for BC in women. Emerging data shows that this disease may have different behavior in women and men. Male BC is usually of low-grade luminal ductal type and more rarely triple negative or HER2 positive. As endocrine-responsive disease, its management in adjuvant setting should rely on endocrine therapy (ET).
We aimed to investigate the possible reasons for disease progression of estrogen receptor positive (ER+) non-metastatic male BC patients in Bulgaria and correlate data with survival.
Material and methods: This is a retrospective population based study of 520 male BCs patients diagnosed between 2002 and 2013 in Bulgaria. Data about tumor characteristics and disease progression was updated in April 2019. 283 patients had ER+M0 disease at diagnosis. Information for disease progression was obtained in 27 of them; ET in the adjuvant setting was correlated with survival.
Results: From all 27 ER+ M1 patients, 16 (59%) have received adjuvant ET (aET) and 11 have not. Time to progression in patients with aET was 57.2 months which is twice longer than ER+ patients without aET (26.9 months). 5-year overall survival in the aET-treated group was 81.2% and 18.2% in patients with no aET.
Conclusion: The backbone of treatment of men with ER+ BC should be ET. aET delays time to progression in men with BC and should be routinely used in all ER+ men with BC. Unfortunately, this is not reflected by the clinical practice in Bulgaria.

PO88

REAL WORLD DATA OF CYCLIN-DEPENDENT KINASE 4/6 INHIBITORS IN A EUROPEAN AND LATIN-AMERICAN LUMINAL ADVANCED BREAST CANCER POPULATION. ANALYSIS OF TWO CENTERS

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Background: The first line of Luminal Advanced breast cancer (LABC) has evolved lately. Nowadays cyclin-dependent kinase 4/6 inhibitors (CDK4/6i) in combination with an aromatase inhibidor (Ai) or Fulvestrant (FUL) are considered standard of care according to pivotal trials. However, despite the positive survival results, its use in real world practice It is not as common as expected and the representativeness of Latin American (LA) patients (pts) was nil or scarce. Because of that we want to report our experience in a European and LA cohort of patients treated with CDK4/6i in multiple scenarios to analyse its utility in clinical practice.
Patients and methods: Between 2015 and 2019 a total of 59 LABC pts were treated with CDK4/6i in two centers: Hospital Universitari Arnau de Vilanova of Lleida – Spain (50 pts) and ALIADA Cancer Center of Lima-Perú with 9. The median age of the group was 52 years (30–78) and 60% were postmenopausal at diagnosis. 17 patients were metastatic to the debut (28.8%), 35.6% pts progressed during endocrine adjuvant treatment, and the last 25.6% had progressed after completing 5 years of hormonal adjuvant treatment. The main metastatic pattern was visceral with 34% of all cases. All pts received adjuvant sistemic treatment (37% with chemo plus endocrine treatment). The 83% (49) of all patients were treated with Palboclib (P), 16% (9) with Ribociclib (R) and 1.6% (1) with abemaciclib (A). The use of CDK4/6i were mostly in 1st line (69.4%) [78% (32) pts using P and 22% (9) R], the 11.8% (7) used in 2nd line, and the last 18.6% (11) were treated in 3rd line and on. 73,8% of pts who progressed during adjuvant treatment received neo/adjuvant chemo.
Results: Global median progression free survival (PFS) was 15.57 months (13.16–17.98) with 19 events. Patients treated in first line had a significant superior PFS (18 months) in comparisson with patients that received a second or a third line with 6 and 8 months respectively. We have not found any correlation between the clinical efficacy and the most relevant prognostic variables such as the previous treatments or the tumor burden except the line where de CDK4/6i was used with a HR of 8.2 in the first line (p = 0,005).
Conclusion: In our results we find that patients treated with CDK4/6i in first line had a PFS of 18 months, relatively similar to the 24 months of Paloma 2 and 26.4 of Monaleesa 2. The difference could be explained by the characteristics of the population and the tumor burden, more similar to the daily clinical practice patients. We did not find any difference in patients from Europe and Latin-america.

PO89

TREATMENT OF PREMENOPAUSAL PATIENTS WITH HORMONE RECEPTOR-POSITIVE, HER2-NEGATIVE METASTATIC BREAST CANCER WITH AN CDK4/6 INHIBITOR COMBINED WITH ENDOCRINE AGENTS: A REAL-WORLD EXPERIENCE

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Background: According to recent randomized phase III trials, a CDK4/6 inhibitor (CDK4/6i) combined with hormonal treatment (HTx) has been documented to be the most effective first-line therapy in premenopausal patients (pts) with hormone receptor-positive (HR+), HER2-negative (HER–) metastatic breast cancer (MBC). However, the vast majority of these pts treated in the clinical routine are still subjected to antineoplastic chemotherapy (Ctx). This real-world compilation of data on HTx combined with a CDK4/6i sought to more accurately estimate the importance of this treatment in the clinical routine.
Methods: A total of 24 premenopausal pts with MBC were included in this analysis. All pts were treated with a CDK4/6i. HTx consisted of ovarian suppression and an aromatase inhibitor (AI) in 19 and

fulvestrant another 5 pts; 14 pts received palbociclib and 10 pts received ribociclib for CDK4/6 inhibition. 8 pts had bone only metastases, 5 pts had visceral metastases only and 11 pts suffered from mixed metastatic MBC. 8 pts had received prior systemic therapy for MBC, comprising Ctx in 4 pts, HTx in 3 pts, and both in 1 pt.

Results: 15 of 24 pts (62.5%) are still on treatment with a CDK4/6i+HTx. In the remainder, therapy was terminated due to disease progression. Adverse effects such as neutropenia were frequent but did not affect the course of treatment significantly. There were no signals observed indicating significant cardiac, liver, or any other serious toxicity. Median treatment duration is recently 69.4+ weeks. All pts failing CDK4/6i+Htx were able to undergo subsequent systemic therapy which consisted of HTx in 4 and Ctx in another 5 cases. Only 3 pts (13.0%) out of this series have died so far after 57.1, 109.7, and 140.6 weeks after starting CDK4/6i resulting in an estimated median overall survival of 123.1+ weeks.

Conclusions: These data show that CDK4/6i+HTx administered to premenopausal pts with HR+, HER2– MBC is safe and effective in the clinical routine in both the first and later line setting. Moreover, the chance to undergo subsequent systemic antineoplastic treatment is unlikely to be adversely influenced by preceding CDK4/6i.

PO90

EFFICACY OF ERIBULIN IN ELDERLY PATIENTS (PTS) WITH METASTATIC BREAST CANCER (MBC) IN REAL CLINICAL PRACTICE IN RUSSIAN FEDERATION

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Goals: This is a retrospective analysis described treatment patterns of eribulin and clinical outcomes associated with the age of patients with metastatic breast cancer (MBC) treated in real life practice in Russian Federation.

Methods: This analysis included patients ≥60 yrs treated with eribulin between Jan1, 2014 and June 1, 2018 with a diagnosis of MBC in different Russian oncology centers. Radiological response was assessed according to RECIST version 1.1. A survival analysis was performed using the Kaplan Meier method. We defined progression free survival (PFS) as the time from start of eribulin treatment to date of progression of disease (PD) or death.

Results: A total of 459 MBC patients were enrolled. A median age was 56 (29–81) yrs. 133 pts (24,6%) were 60 yrs and older. ECOG 0–1 was in 85% pts, ECOG 2–3, in 15% pts. 48 (36%) pts had triple-negative BC, the rest had luminal molecular syptypes. Eribulin was administered as 1st and 2nd lines to 34 (25%) pts, 3rd line, to 45 (34,4%) pts, 4th line and later to 54 (40,6%). Median of cycles administered was 5 (2–31). In the group of patients ≥60 yrs ORR was found in 18,8% vs 21,3% in the group of patients <60 yrs ($p = 0.28$). According to the age the median PFS was not statiscally different between pts ≥60 yrs and pts <60 yrs (4.27 mos (95% CI 3.64, 4.9) and 5.1 mos (95% CI 3.95, 6.2) respectively, $p = 0,156$. The most common types of toxicity were neutropenia Gr1-2 in 17 (12.8%) pts and Gr3-4, in 16 (12%) pts. including febrile neutropenia in one patient and peripheral neuropathy Gr1-2 in 8 (6%) pts and Gr 3 in 3 (2.3%) pts.

Conclusions: This real-life experience throughout the Russian Federation demonstrated the activity and tolerability of eribulin in MBC patients older than 60 yrs.

PO91

IMPACT OF IMAGING SURVEILLANCE OF PATIENTS WITH BREAST CANCER AFTER PRIMARY TREATMENT

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Aim: After curative treatment, breast cancer survivors (BCS) follow-up focus on early detection of breast cancer recurrence (BCR). The present analysis attempts to determine impact of imaging surveillance and patterns of relapse of BCS.

Materials and methods: We reviewed medical data of 662 BCS discharged from a comprehensive cancer center between 2010 and 2012, after at least 5 years of follow-up. Primary endpoint was evaluation of the impact of imaging surveillance in detecting BCR. Secondary endpoints were determination of patterns of BCR, disease free survival (DFS) and overall survival (OS). Descriptive analysis of main demographic and clinical-pathological characteristics was performed. Kaplan-Meier methodology was used to estimate survival.

Results: With a median follow-up of 14 years, 91 (14%) recurrences were identified. Median age at relapse was 63 years (40–90). At first diagnosis most of patients were stage I (41, 45%) and hormone receptor-positive (89, 98%). Surgical treatment had been conservative in only 35 (39%) patients. The majority had undergone adjuvant radiotherapy (78, 86%) and chemotherapy (54, 59%). Most had been treated with at least 5 years of hormonotherapy (87, 96%). Local relapse was found in 36 (40%) of patients, in which 21 (58%) were detected by routine yearly mammography. Majority of relapses (51, 56%) manifested as symptomatic metastatic disease. DFS was 65 months [95%CI 23–189] and OS 208 months [95%CI 190–226], with local recurrence leading to better survival rates ($p = 0.017$).

Conclusions: Most BCR occur as advanced disease, which was detected in the interval of yearly-imaging surveillance. Nevertheless, there were a considerable percentage of patients with local BCR that have been detected by routine mammography, which were potentially cured and with a significant impact on OS. These results validate the recommendation for maintenance of breast imaging surveillance after primary treatment and discharge from a cancer center.

PO92

IMPACT OF REAL-WORLD AND CLINICAL TRIAL PATIENTS' CHARACTERISTICS ON THE EFFECTIVENESS AND TOLERABILITY OF ICDK IN THE TREATMENT OF ADVANCED BREAST CANCER

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Background: The results of phase III clinical trials with Palbociclib (PALOMA 2 and PALOMA 3) and Ribociclib (MONALEESA 2 and MONALEESA 3), led to the recent approval of these CDK 4/6 inhibitors (iCDK) for the treatment of ER-positive advanced breast cancer. The aim of this study was to compare effectiveness and tolerability of iCDK on patients that met clinical trials eligibility criteria with patients that did not.
Methods: Multicentric retrospective cohort study of all patients that received Letrozole and more than one dose of an iCDK in three central hospitals in Portugal. We performed a comparative analysis of patients that did and did not fulfil the clinical trials eligibility criteria. Patients treated with Palbociclib and Ribociclib were allocated according to PALOMA 2 and MONALEESA 2, respectively.
Results: Until April 2019, 30 patients were included. All women were diagnosed with ER-positive and HER2-negative breast cancer, with a median age of 56.8 years, 43.3% were premenopausal, 20% had an ECOG-PS of 2, 10% had cerebral metastasis and 23.3% received palliative chemotherapy. At the time of analysis, 22 patients were still on treatment. Overall response rate (ORR) was 33.3% and disease control rate (DCR) 90.5%. The median progression free survival (PFS) was not reached after a median follow-up of 7.1 months. Adverse events grade 3 or 4 were reported in 53.3% of patients, being neutropenia the most common (10% febrile neutropenia). Half of patients had at least one dose interruption and 13.3% required dose reduction (median time to first dose modification of 2.5 months). Discontinuation because of toxicity was needed in 2 patients. Both iCDK presented similar effectiveness and tolerability.
Thirteen patients (43.3%) met clinical trials eligibility criteria. Patients that did not fulfil the eligibility criteria had more grade 3 or 4 adverse events (76.5% vs 23.1%, $p < 0.01$) and neutropenia grade 3 or 4 (70.6% vs 23.1%, $p = 0.01$). Despite not being statistically significant, dose interruption (58.8% vs 38.5%, $p = 0.27$), dose reduction (17.6% vs 7.7%, $p = 0.61$) and treatment suspension (35.3% vs 15.4%, $p = 0.41$) were more frequent in patients that did not fulfil clinical trial criteria. Both ORR (38.5% vs 25%, $p = 0.66$) and DCR (84.6% vs 100%, $p = 0.51$) were similar in these subgroups.
Conclusion: In this real-world analysis iCDK were used in a more heterogeneous and heavily treated population than the included in clinical trials, with similar optimistic results but relevant toxicities. Patients that did not meet eligibility criteria of clinical trials had a tendency for worse toxicity profile, despite the similar effectiveness.

PO93

ADVANCED INVASIVE LOBULAR CARCINOMA, REAL WORLD EXPERIENCES IN SINGLE INSTITUTION

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Introduction: Around 10% of operable breast cancer (BC) show histopathologic feature of invasive lobular carcinoma (ILC), and they recognized as good risk. However, prognosis of inoperable/recurrent, i.e. advanced BC (ABC), patients with ILC has not been well discussed.
Patients and methods: The outcomes of ABC patients with ILC who received any therapy at our institute from September 2002 to the present were reviewed. Statistical analyses were performed using the Kaplan-Meyer method.
Results: We medical records of 705 ABC patients, and identified 33 ABC patients with histopathologically confirmed ILC. Of 33 female patients, the median age at the diagnosis of ABC was 60 (range 43–70). Nineteen out of 33 (58%) patients received surgery of the primary site, and the median disease-free interval was 81.2 months (range 11.7–306.3). Subtypes of primary tumor were as follows; luminal, 28 (85%); luminal-HER2, 1 (3%); triple-negative, 4 (12%). Bone was the most common (73%) distant metastatic site and followed by lung (12%) and liver (12%). Twenty-four patients (73%) had died within the observation period, the median overall survival (OS) from the diagnosis of ABC was 41.4 months (95% confidence interval [CI] 28.2–47.2). The median OS was identical to that of luminal ABC the median OS. Breakdown of the main cause of death was as follows; cachexia, 9 (38%); hepatic failure, 6 (25%); central nervous system involvement, 5 (21%); respiratory failure, 2 (8%); other, 2 (8%). Excluding 5 non-luminal (4 triple-negative and 1 luminal-HER2) patients, the median OS was 44.7 months (95%CI 32.5–51.4), and which was shorter than that of other 265 luminal ABC patients (median 56.8 months, 95%CI 52.6–68.4) without statistical significance (P value = 0.146, log-rank).
Conclusions: Our retrospective study of the single institution disclosed ABC patients with ILC had a trend of poor outcome compared to other luminal ABC patients. Multi-institutional study is warranted to disclose the details of ABC patients with ILC in the real world.

PO94

IMPACT OF ADDING A PLATINUM AGENT (CARBOPLATIN) TO PACLITAXEL VS. PACLITAXEL ALONE IN MBC. A ROMANIAN CENTRE EXPERIENCE

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Background: There is a rising trend in using platinum agents for treating breast cancer (in the neoadjuvant or metastatic setting), with promising results in the triple-negative (TNBC) subtype and/or in presence of BRCA1/2 mutation. When chemotherapy is indicated, according to the ABC guidelines, sequential monotherapy treatment is preferred for MBC, with less side effects than a combination and with similar outcomes in terms of OS. In clinical practice, at the Oncology Institute of Bucharest (IOB), Romania, many MBC patients receive combination chemotherapy, especially platinum-taxane regimes despite the recommendation, irrespective of the histological types of disease. The purpose of this study is to evaluate the toxicity of adding Carboplatin to a taxane and to assess the TTP (time to progression) as main objective.
Methods: a number of 47 patients with MBC treated between 2010 and 2018 in IOB, with TNBC or Luminal B (HER 2–) disease, were retrospectively evaluated, divided into 2 cohorts: A. 26 patients treated with Paclitaxel (P) 80 mg/sqm weekly or P 175 mg/sqm every 3 weeks and B. 21 patients treated with P 175 mg/sqm plus Carboplatin AUC5/6 every 3 weeks. 22 patients were treated in the first line setting.
Results: The evaluation of the median TTP(months), irrespective of histology, in first line for cohort A was 6,27 m [95%CI; 3–12] vs. 10,13 m [95%CI; 4,5–24] $p = 0.03$ for cohort B. The mTTP in the TNBC group cohort A (12 patients) was 5,55 m [95%CI; 4,2–10] and for the

TNBC group in cohort B (16 patients), 8,03 m [2–24]. 30.7% of patients in group A experienced grade 3/4 haematological adverse events, as compared to 28,6% in cohort B; 19% had anaemia (all grade) in the monotherapy arm, compared to 66,6% in the combination arm. Neutropenia (all grade) was higher with taxane alone 73% vs. 33%. Nausea was higher in cohort B, 81% vs. 23%, neurotoxicity was similar, 11,5% cohort A vs. 14,3% cohort B. All grade 3/4 AE reported by age subgroups were higher for patients over 60 yo (54%) vs. those under 60 yo (43%). No significant difference between the cohorts was observed for the other reported AE (gastrointestinal, skin, fatigue).
Conclusions: Within the limits of our retrospective analysis, we conclude that addition of Carboplatin to P increases haematological and GI toxicities that are manageable and the combination can be safely administered in daily practice. Although selection bias cannot be accounted for, in our limited experience, Carboplatin plus taxane combination showed a significant increase in time to progression (mTTP) when used in first line treatment for MBC.

PO95

TREATING BONES IN METASTATIC BREAST CANCER

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Background: Bone is the most frequent site of breast cancer metastasis with impact in quality of life (QoL) associated to skeletal-related events (SRE) and morbidities. Treatment principal goal is the prevention and control of SRE and complications related, decrease pain and promote QoL. Both bisphosphonates and denosumab have positive results in this treatment and decreasing SRE. Other treatments must be considered, like surgery, radiotherapy and adequate systemic therapy.
Objective: Characterize the patients with breast cancer bone metastasis (BCBM) and the bone-target therapies (BTT). As secondary goal the influence of BTT on overall survival (OS) and SRE.
Methods: In a retrospective study, based on medical records of the BCBM patients, between January 2009 and December 2015, we've analyzed the molecular subtypes (Luminal A, Luminal B/Her2–, Luminal B/Her2+, HER2+ and triple negative) and the type of BTT, duration of treatment, SRE and adverse effects. Descriptive statistics, T-test and Chi-squared were computed in SPSS v23.0.
Results: We've analyzed 44 women with BCBM, median age of 69.5 years old. In 25% were LuminalA, 36.4% LuminalB/Her2–, 20.5% LuminalB/Her2+, 13.6% HER2+ and 4.5% triple negative. Hepatic (25%) and pulmonary (11.4%) lesions were the most frequent sites of metastasis associated with the bone. 56.8% had exclusive bone metastasis.
Bone diseases were treated with radiotherapy in 50% and 70.5% with BTT (bisphosphonates-87.1%; denosumab-12.9%). The beginning of BTT were at a median 2 months after BCBM with a duration of 17.5 months (median).
SRE were registered in 36.4% (n = 16) of the cases: pathologic fractures (81.3%), spinal cord compression (25%) and hypercalcemia (25%). In 37.5% the SRE occurs at diagnosis. The BTT were well tolerated, with minimal side effects, like musculoskeletal pain (15.6%), hypocalcemia (9.4%), nephrotoxicity (6.3%), gastrointestinal symptoms (3.1%) and 1 case of major side effect-osteonecrosis of the jaw.
With a median OS of 23.2 months, without statistical relation with: BTT ($p = 0.486$), radiotherapy ($p = 0.116$), exclusive bone disease ($p = 0.612$) or SRE ($p = 0.927$). Even without SRE there were no differences on OS with BTT ($p = 0.40$). The BTT were not related with SRE ($p = 0.096$).
There were no differences in BTT ($p = 0.185$) or SRE ($p = 0.701$) according to molecular subtype of breast cancer.
Conclusion: The absence of statistical relation between BTT and SRE differs from the state of art, which could be related with the short number of patients on this field or the presence of SRE at the time of diagnosis of BCBM. There were no influence of this variables on OS as in other reports. The results of this study alert to the importance of bone treatment regardless of molecular subtype, with tolerated side effects.

PO96

PRELIMINARY ANALYSIS OF TREATMENT DELAY WITH PALBOCICLIB ON PROGRESSION FREE SURVIVAL (PFS)

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Introduction: Targeted therapies, such as Palbociclib, a cyclin-dependent kinase inhibitor, have revolutionized the treatment of hormone receptor positive/human epidermal growth factor receptor 2 negative metastatic breast cancer according to Paloma 2 and Paloma 3 trials. Initially approved by Food and Drug Administration (FDA) in February 2015 and by European Medicines Agency (EMA) in November 2016. In Portugal it was available from the beginning of 2017 through a special request to the regulatory entity. Evidence suggests treatment delay compromises survival rates.
Methods and objectives: Retrospective cohort study with 23 patients that underwent treatment with palbociclib in our center in between March 2017 and November 2018. The goal is to analyse the time to treatment (TTT), from prescription to beginning of treatment, and the effect on PFS at 6 months follow up.
Results: In this study 23 patients were analysed, with median age 58 years old [33–77] and ECOG PS 0 in 76%. Visceral metastasis were present in 18 (78,3%) patients. Metastasis were located in only one site (n = 12), 2 sites (n = 7) and 3 sites (n = 4). Lung (n = 13), bone (n = 9) and liver (n = 8) were the most common. Palbociclib and Fulvestrant were applied to 21 patients after progression with hormonotherapy. 84% (n = 17) presented toxicity to Palbociclib 150 mg/day, specially hematological, although 47,6% (n = 10) presented severe toxicity profile grade 3–4. Dose reduction was necessary in 43% (n = 9). Median TTT was 8 weeks [5–12 weeks]. PFS after 6 months follow up was 62%.
Discussion and conclusion: PFS at 6 months follow up were slightly inferior to results in Paloma 3 trial, but in concordance with other retrospective studies. Careful analysis of these results is important as sample size limitations are evident. These results may be explained not only by the higher incidence of visceral metastasis (78,3% vs 58,3% in Paloma 3) and dose reduction, but also due to higher TTT (5–12 weeks vs <4 weeks). Special consideration should be placed in assessing and optimizing factors that delay treatment.

PO97

WOMEN WITH METASTATIC BREAST CANCER AND BONE MARROW INFILTRATION

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Introduction: One of the sites of Metastatic breast cancer is bone marrow. The consequences are low white cells, hematocrit and

platelets. Usually women could be metastatic for some years and at some poont will recur and have signs of bone marrow onfiltration.
Purpose: We would like to show the experience of our clinic with women diagnosed with breast cancer and bone marrow infiltration. Some of the issues of these cases is the diagnosis, treatment, the percentage of women that managed to be improved and the way their disease recurred later.
The last five years fifteen women were diagnosed with metastatic breast cancer and bone marrow infiltration. Most of the women had low concentrations of platelets (<50.000 per microliter of blood, Hb:9 gm/dl). Two women were diagnosed de novo with bone marrow infiltration. In addition, all women reported had hormonal positive breast cancer and HER2 negative.
It should be emphasized that each woman that had signs of bone marrow infiltration, a bone marrow aspiration and biopsy was conducted. All women received chemotherapy with weekly paclitaxel (80 mg/m^2). Bone marrow examination is a useful tool for the assessment of bone marrow cellularity, cellular morphology, and maturation. All women apart from two managed to recover with paclitaxel and only one of the two that received as a second line vinorelbine did not manage to recover. In addition, only a woman did not continue treatment, due to deterioration of her performance status and denied to continue. Treatment was given weekly without delays due to low blood counts, gcsf was prescribed accordingly. As far as histopathologic findings of the bone marrow the tumor cells had no hormonal sensitivity.
All women that received weekly paclitaxel and managed to recover stopped chemotherapy after four to six months. If chemotherapy was stopped, women did receive hormonal treatment and they seemed to respond for some months, while longer seemed to respond women with de novo diagnosis of metastatic breast cancer. Unfortunately, due to the severity of pancytopenia almost all women had to be hospitalized, be transfused with blood cells and platelets when needed. The median time of hospitalization was a month.
Finally, it should be emphasized that apart from one woman that did not respond to tretment, all others did not die due to progression of their disease in bones but due to progression at other sites (mostly liver, lung, brain).
Conclusion: Women with metastatic hormonal positive, her2 negative breast cancer might have a recurrence of their disease and bone marrow infiltration. The goal of this abstract is to reveal the experience of our clinic by treating women with a life-threatening condition. Show their improvement after a period of intensive treatment.

Abstracts – Clinical Issues: Radiation Oncology

PO98

DOES LOCAL TREATMENT AFFECT OUTCOME IN PATIENTS WITH METASTATIC BREAST CANCER?

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Purpose: Role of local treatment in patients with metastatic breast cancer is controversial. In this study we compared outcomes with and without local treatment in patients with metastatic breast cancer.
Materials and methods: Patients with metastatic breast cancer were analysed for disease characteristics and outcome with and without surgery ± radiotherapy after initial chemotherapy. Surgery was mastectomy or toilet mastectomy. Radiotherapy dose was 35 Gy/15#/3 weeks to the chest wall. Patient and tumour characteristics were compared using Fisher's exact tests. PFS and OS were estimated using Kaplan-Meier curves and compared using log-rank tests. All statistical tests were two sided, with p-values less than 0.05 considered statistically significant.
Results: Between June 2001 to December 2010, 195 patients with metastatic breast cancer were analysed. 119 patients received local treatment and 76 did not. Mean age was 50 years (range 20–75). Patient and tumour characteristics were balanced between the two arms except for more patients with T1T2 tumor 39(33%) in the surgical arm as compared to 3(4%) in without surgery. Median follow up was 22 months (6–125). Patients with local treatment developed more distant metastasis 56(47%) as compared to 15 (20%), p = 0.03 without local treatment. Median PFS was 18 and 10 months (p = 0.053) with and without local treatment, respectively. Median OS was 26 and 20 months (p = 0.071) with and without local treatment, respectively.
Conclusion: In patients with metastatic breast cancer local treatment after chemotherapy had no impact on PFS and OS. Distant metastasis rate was higher after local treatment.

PO99

HYPOFRACTIONATED RADIOTHERAPY FOR INFLAMMATORY BREAST CANCER

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Purpose: The aim of our study is to evaluate hypofractionated radiotherapy in the treatment of inflammatory breast cancer (IBC) in terms of local control, survival, and toxicity.
Methods: This is a retrospective study concerning patients treated for IBC between 2014 and 2016, at the radiation oncology department in the University Hospital Hassan II in Fes Morocco.
Patients had neo-adjuvant chemotherapy made of anthracyclines and taxanes for 6 to 8 cycles.
Surgery was performed after chemotherapy and consisted of mastectomy and axillary lymph node dissection.
Radiotherapy to the chest wall and lymph nodes was delivered after the wound healed surgery.
Depending on the molecular profile, trastuzumab and or endocrine therapy were given as adjuvant medical treatment.
Follow up was mainly clinical and radiological.
Results: 50 women were included in this study. The mean age was 49.5 years old, 2 of them were pregnant at the time of diagnosis and one had bilateral breast cancer. 2 of our patients had a breast cancer history in a close relative of 1 st degree.
78% of our patients had an invasive ductal carcinoma with positive hormone receptors. Human epidermal growth factor receptor 2 was overexpressed in 17% of our cases.
Mastectomy with axillary dissection was performed in 78.5% of cases. 10% of our patients progressed under chemotherapy and only 34.5% had a complete response. They all received then radiotherapy on the chest wall + and lymph nodes in a hypofractionated scheme at a dose of 42 Gy in 15 fractions, 2.8 Gy per fraction, 5 fractions per week.
After a median follow-up of 25.1 months, the evolution was marked by local control in 78.5% of patients, a recurrence in the breast in a patient, and the appearance of metastases in 17.8%.
Conclusion: Inflammatory breast cancer is aggressive cancer that requires a multidisciplinary price. The encouraging results of our study demonstrate that a hypofractionated irradiation regimen could provide good local control in patients treated for IBC while reducing the duration and cost of treatment.

PR100

INFLAMMATORY BREAST CANCER IN THE CENTER OF TUNISIA: A LARGE RETROSPECTIVE STUDY ABOUT 272 CASES

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Introduction: Inflammatory breast cancer (IBC) is a rare and aggressive disease representing between 2% and 5% of breast cancers.
Objectives: to report epidemiological, anatomo-clinical features of inflammatory breast in the center of Tunisia, to assess therapeutic strategies and to evaluate prognostic factors.
Materials and methods: This retrospective study included 272 Tunisian patients presenting a clinically diagnosed IBC, treated at the university hospital Farhat Hached of Sousse and at the medical center Ibn Khaldoun of Sousse, Tunisia, from 1995 to 2015. We collected data on epidemiology, anatomo-clinical and biological features. Overall survival and disease-free survival were calculated by Kaplan-Meier method and compared by log-rank tests. Cox's models were used to identify prognostic factors.
Results: The patients had a median age of 49 years (23–90). A tumor mass was found in 61% of cases (167 patients). On histology, invasive ductal carcinoma represented 90% of cases (224 patients). Hormone receptors were negative in 29% (78 patients). HER2 was over-expressed in 25% of our IBC cases. Fifty-six patients (20,6%) had metastasis at time of presentation. Two hundred and twenty nine patients were treated with curative intention (84%) by neoadjuvant chemotherapy, followed by modified radical mastectomy for 224 patients (98%), loco regional adjuvant radiation therapy was given to 199 patients (87%) in a dose range from 50 Gy to 72 Gy with a normo-fractionated regime for all the patients. Adjuvant chemotherapy was given to 123 patients (45,3%) and hormonal therapy to all the patients expressing estrogen and/or progesterone receptors as adjuvant therapy. Forty-three patients (16%) had a palliative care. At a median follow-up of 23,6 months, the overall survival was at 5 and at 10 years respectively at 13,2% and 4,5%. Improvement in overall survival was seen in patients with a consultation period <3 months, without metastasis at time of diagnosis and who achieved complete clinical or pathological response after neoadjuvant chemotherapy.
Conclusion: IBC is a rare but a deadly subtype of locally advanced breast cancer with a poor prognosis, imposing a multidisciplinary and urgent therapeutic strategy.

PO101

CONCOMITANT CHEMORADIOTHERAPY FOR UNRESECTABLE NON-METASTATIC INFLAMMATORY AND LOCALLY ADVANCED BREAST CANCER

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Purpose: The objective of our study is to evaluate the results of a concomitant chemoradiotherapy protocol for inflammatory and locally advanced breast cancers in case of unresectable or inoperable patients after a non-response to neoadjuvant chemotherapy.
Patients and methods: Our work focused on the files of 7 patients followed for inflammatory or locally advanced non-metastatic breast cancer, who were found to be unresectable or inoperable after neoadjuvant chemotherapy, and who was proposed, following the decision of the multidisciplinary tumor board for a concomitant chemoradiotherapy.
All patients had neoadjuvant chemotherapy made of anthracyclines and taxanes.
The post-chemotherapy clinical assessment showed an unresectable tumor with no response to chemotherapy.
Radiotherapy was delivered according to a mono-isocentric 3D conformal technique to the whole breast and supra and subclavicular lymph nodes, in a normo-fractionated regimen of 50 Gy in and 5,4 weeks. All our patients had a daily set up of a 5 mm bolus.
Concomitant chemotherapy consisted of capecitabine at a dose of 825 mg/m^2 on radiotherapy days.
Follow up was clinical and radiological.
Results: The age of our patients was 46.2 years, 2 of them were menopaused at the time of diagnosis, and one had declared her cancer at her 2nd trimester of pregnancy. The mean time to the consultation was 8.75 months.
The infiltrating ductal carcinoma was the histological type found in all our patients. The hormone receptors were positive in 3 of them. Mean ki67 was 42% and Her2 was not expressed in any of our patients.
Our patients received an average of 7 courses of neoadjuvant chemotherapy (anthracycline then taxanes) and were found to be inoperable.
Only one patient was able to become resectable and had surgery. Overall survival on average was 7.2 months. The major side effect was represented by hepatic cytolysis.
Conclusion: Concomitant chemoradiotherapy is an interesting alternative for surgery in inflammatory and locally advanced unresectable breast cancers. A multicenter study with larger sample patients should be considered to define an adequate protocol.

PO102

HYPOFRACTIONATED RADIATION THERAPY: COULD BE CONSIDERED AS AN OPTION FOR THE TREATMENT OF LOCALLY ADVANCED BREAST CANCER?

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Introduction and objectives: Hypo fractionated radiation therapy (HFRT) tend to be currently recommended by several international guidelines for the treatment of early breast cancer without nodal involvement and after breast conservative surgery (BCS). But, its place in the treatment of locally advanced breast cancer (LABC) remains unknown.
We propose to assess the acute toxicity and short-term locoregional recurrence (LRR) of HFRT through our experience among such cases and try to estimate the gain in terms of patient throughput.
Methods and materials: From August 2017 to December 2018, 53 patients with LABC (stage IIb (cT3) or III according to the 8th edition AJCC and/or pN+≥4) were retrospectively reviewed. All patients received an adjuvant HFRT (40 Gy/15 fractions, 2,76 Gy/day) with sequential boost (13,35 Gy/5 fractions) if BCS was performed or T4d tumor, with 3 D Mono-Isocentric Technique.
The median age was 49 years old. Forty-nine patients performed a radical surgery followed by HFRT (725 fractions) among them 4 had a boost (20 fractions) versus 10 patients underwent a BCS followed by HFRT (200 fractions). All patients had chemotherapy. Ninety-three percent of the patients underwent a locoregional HFRT.
A weekly monitoring was performed during radiation therapy to evaluate the acute toxicity (CTCAE v4.0).
Patients were assessed by a physical examination every 3 months for 2 years to evaluate the short-term LRR.

Results: The median follow-up time was about 8 months (range, 4–17 months). There were no case of LRR.
The evaluation of the Acute skin toxicity according to CTCAE v4.0 noticed 68% cases (36 patients) of grade 1 toxicity, only one case of grade 2 toxicity and one case of grade 3 toxicity. There was no acute skin toxicity in 30% of patients (n = 16).
Only one case of lymphoedema (grade ≤ 2) was observed.
During the study follow-up, no cardiac or symptomatic pneumonitis was reported.
With this H-RT regimen treating 53 patients in 945 fractions, we treated 25 additional patients comparing to Conventional radiation therapy regimen.
Conclusions: Our results are in line with some retrospective studies and one Chinese prospective randomized phase III study in terms of toxicity and short-term LRR. Those studies had demonstrated that HFRT for the treatment of LABC had similar results in terms of toxicity, tolerability, and 5-year locoregional control than conventional fractionation. Furthermore, HFRT is of utmost importance in a resource limited country like ours; it can help in providing care to more patients, in decreasing waiting list in a calendar year and increasing turnover.

Abstracts – Clinical Issues: Surgical Oncology

PR103

EFFICACY AND SAFETY OF MODIFIED RADICAL MASTECTOMY FOR ADVANCED BREAST CANCER AT SUB SAHARAN BREAST CENTER, KAMPALA

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Introduction: Breast cancer still remains the leading cause of cancer-related death among women globally. Though feminine breast cancer is more prevalent in Europe and America (Developed economies), global cancer statistics currently reveal that incident rates are alarmingly increasing in low and middle-income countries (LMIC). Sub Saharan Africa for a long time has experienced a particularly heavy burden of a highly aggressive type of breast cancer among her low age female population. Cancer in this region poses a disparity by affecting mostly women below the age of 40 years presenting with huge late-stage breast lesions. The aim of this study was to assess efficacy and safety of modified radical mastectomy as a modality of Cancer Associated Radical Excision (CARE) for pathological T4 breast cancer among a population of women at Makerere University Teaching Hospital, Kampala.
Patients and methods: This was a retrospective evaluation. This data bank is still ongoing with 300 patients who underwent modified mastectomy (CARE) since 2014. We dichotomized patients based on Chemotherapy status at the time of the Modified Radical Mastectomy. Whereby Adjuvant Chemotherapy (ACT) and NeoAdjuvant Chemotherapy (NACT) CARE before and after initiation of Chemotherapy respectively. Demographic data, postoperative complication rates and pathological variables in relation to morbidity and mortality were evaluated.
Results: Two hundred patients (n = 200) in all, 60 NACT and 140 ACT T4 patients were evaluated. Only women with confirmed histological diagnosis cancer were included. Data for 200 patients with clinical T4 were subjected to statistical analysis. Eighty percent of T4 patients were below 40 years for the two subgroups. The median operating time and blood losses were 100 min and 200 mL against 110 min and 300 mLfor ACT T4 and NACT T4 CARE, respectively. Though not statistically significant, the complication rate was higher (4% versus 5%, P = 0.52) among ACT and NACT T4 patients, respectively. The overall 14-day surgical site infection and Seroma formation rate was 2% and 4% Versus 5% and 9% for ACT Versus NACT T4 advanced breast cancer patients (p < 001) respectively. The cancer receptor status, hormonal contraceptive exposure, and Menopausal status were significantly associated with the development of a complication in the NACT T4 patients.
Conclusion: Cancer-associated radical excision (CARE) in the form of modified radical mastectomy for advanced breast cancer is safe and feasible.

PO104

RESIDUAL LOCALLY ADVANCE BREAST CANCER AFTER NEOADJUVANT SYSTEMIC TREATMENT: IS SURGERY JUSTIFIABLE?

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Introduction: Locally advanced Breast cancer is an aggressive form of breast cancer with poor prognosis and high recurrence. The general principle of oncological management of locally advanced breast cancer includes neoadjuvant chemotherapy, surgery, radiotherapy, endocrine treatment and treatment with biological targeting therapy. Resectional surgery aims to have clear resection margin around cancer which needs plastic reconstruction for wound closure.
Objective: High recurrence rate of cancer in patients with locally advanced breast cancer despite neoadjuvant chemotherapy, adjuvant radiotherapy, and hormonal therapy needs consideration regarding the need of aggressive surgery with modified radical mastectomy and lattissmus dorsi flap for skin defect closure.
Material and method: Total of 15 patients from 2006 to 2015 who has locally advanced breast cancer, had partial or no response to neoadjuvant chemotherapy and remained locally advanced need reconstructional surgery for wound closure were included. All patients received adjuvant radiotherapy and hormonal therapy according to hormonal status. Rate of recurrence was observed.
Results: Total 15 female patients with age 22 to 55 years were included in the study to observe the disease recurrence in patients with locally advanced breast cancer whose tumor was unresectable even after neoadjuvant chemotherapy and required LD flap for wound closure for skin coverage. The mean age of patients was 42.73 ± 9.66 years while mean follow up of patients was 33.93 ± 26.78 months. Duration of local and systemic recurrence after surgery was 20.09 + 15.00 months (6–48 months). Duration of local recurrence was 16.00 ± 14.92 months (6–47 months). Mean nodes removed and involved were 12.53 ± 8.04 and 5.46 ± 7.15 respectively. 11 (73.3%) patients were found with stage III and 4 (26.7%) with stage-IV. All patients have infiltrating carcinoma of the breast. On molecular basis1 (6.7%) luminal A 1 (6.7%) luminal B, 4 (26.7%) B Her and 4 (26.7%) HER 2 Positive and 5 (33.3% were triple negative. 14 (93% patient were present in High Ki67 (>14%) group. In our study recurrence was observed for 73.3% patients with 7 (64%) local and 4 (36%) systemic recurrence with triple-negative recurrence rate 5 (45.5) and stage IV has maximum (36.4%). In other words, all 5 triple negative and stage IV 4 patients have a local recurrence (100% recurrence).
Conclusion: In our study, more than 60% of patient had developed local recurrence within 16.00 ± 14.92 months (6–47 months) time period despite standard care of treatment of neoadjuvant systemic therapy and adjuvant radiation and hormonal treatment. This aggressive behavior of disease raised a query on doing aggressive advance surgery with flap coverage with more than 60% patient having no benefit.

PO105

MEN WITH BREAST CANCER, SURGICAL MANAGEMENT IN ADVANCED AND METASTATIC SETTING

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Introduction: Surgery of the primary tumor and the axilla is a mandatory part of the treatment in early breast cancer (BC). In the metastatic setting, surgery may be discussed as a procedure, improving local control. In men with BC, the mammary gland is smaller than in women and local control might produce greater concern. We aimed to characterize the surgical management in advanced and metastatic male BC patients in two Balkan countries, Bulgaria and Serbia.
Material and methods: This is a retrospective international multicenter study, involving 391 male BC patients from Bulgaria and Serbia, diagnosed between 2002 and 2013. Data was obtained from the registries of eight high-volume Oncological Centers in Bulgaria and the biggest Cancer center in Belgrade, Serbia. Data about surgical management was available in 314 men (236 Bulgarian and 78 Serbian).
Results: De novo metastatic stage was diagnosed in 5.73% of all male BC patients and more of 1/3 of them was subjected to surgery. Stage III was diagnosed in 34.4% of all and in most of them (75.9%) surgery was the initial management. Of all patients who underwent primary breast conserving surgery, 36.8% had advanced T3–4 tumors.
Conclusion: Male BC is diagnosed in more advanced stages in Bulgaria and Serbia and primary surgery in these stages is still largely used. This may be due to the smaller size of the gland and concerns about local control, but also as a consequence of use old outdated practices as well as suboptimal patients' selection.

PO106

ELECTROCHEMOTHERAPY FOR CUTANEOUS METASTASIS OF BREAST CANCER. UPDATE

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Introduction: Cutaneous metastasis in patients with breast cancer is a significant clinical problem, as these lesions are prone to ulceration, infection and bleeding. The incidence of skin metastases in breast cancer patients ranges from 5 to 30%. Most of these metastases indicate recurrence of disease, but in about 3.5% of these patients it might be the first sign of disease.
Surgical resection, chemotherapy and radiotherapy remain the standard treatment. However, when the conventional treatments are not effective, electrochemotherapy (ECT) can be a safe and effective alternative in the treatment of recurrent cutaneous metastasis.
ECT is a local treatment based on the application of an electric current to the tumour site, in order to transiently permeabilize the plasma membrane of cells, facilitating the entry of cytotoxic drugs, such as bleomycin.
We report our experience using ECT to treat cutaneous breast cancer recurrences that had proven refractory to current standard treatment modalities.
Materials and methods: Retrospective study which included patients who underwent ECT for the treatment of cutaneous metastasis of breast cancer in our Institution. The sessions were performed following the ESOPE protocol, using intravenous bleomycin (15.000 IU/m^2) followed by electric pulses, under general anesthesia. The results were evaluated four and eight weeks after each session. It was defined as complete response the absence of palpable or measurable tumour, and as partial response the decrease of at least 30% of tumour volume, according to the RECIST 1.1 criteria.
Results: During the period between May 2009 and December 2018, 30 patients with a median age of 63 years were evaluated. There was a total of 46 ECT sessions during the period of study. 11 patients (36%) underwent more than one session, with a maximum of four sessions in one patient, either due to partial response to previous ECT treatments, or due to disease progression. We report 4 patients lost to follow up. All patients had received prior multimodal therapy.
The overall response to ECT was 100%, with a complete response in 55% (23 sessions), with only mild adverse effects reported, such as local pain and ulceration.
Conclusions: There is scientific evidence of the efficacy of ECT in the treatment of cutaneous metastasis of various cancers, particularly in melanoma. Studies assessing the effect of ECT on cutaneous metastases of breast cancer show encouraging results, although the series reported are small to support its efficiency.
These cases show the effectiveness of ECT as treatment for cutaneous breast cancer lesions that have proven refractory to standard therapies. It is a simple, cost-effective and well tolerated modality, suitable for repetitive treatment.

PO107

EFFICACY OF SURGICAL TREATMENT OF ADVANCED BREAST CANCER. URGENCY OF THE PROBLEM

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The purpose of the study: Determination of the effect surgery on the results of complex treatment of patients with advanced breast cancer (breast cancer).
Material and methods: The study included 196 patients treated in the department from 2000 to 2018 diagnosis was made according to the International TNM-classification (7th ed., 2011): Tl Nl M1, The presence of distant-metastases. The study included women aged 32–80 (58 ± 1,1) years. Frequently diagnosed with invasive ductal carcinoma –128 (65.3%) and invasive lobular carcinoma, 33 (16.8%), and combined forms of ductal lobular cancer, 19 (9.7%), a rare form of cancer –16 (8.2%) patients. As a result of study patients were divided into 2 groups. In group 1 (n = 124) included patients who surgery is performed in terms of complex treatment, in group 2 (n = 72), large, Special undergoing only conservative treatment. Surgery patients Group 1 performed in the volume of

palliative mastectomy. In the first stage surgical vme-vention on the primary focus was performed in 16 (12.9%) patients due to the risk of bleeding, often vital reasons. In 108 (55.1%) patients, in addition to the removal of the primary tumor. You are use 3-r lymphadenectomy.
Results: Overall 3- and 5-year survival rate Group 1 patients was 51.0 and 36.2%, while as the 2 groups of patients, 15.0 and 7.9% respectively tively ($p < 0,05$). The median duration of life for patients who have not performed surgical intervention was 24 months against 42 months in patients who underwent palliative operation. The most common distant metastasis dosing was recorded at a tumor G2, that was more than 2 times higher in comparison with tumors of the G1.
Conclusions: Surgical removal of the primary focus in the breast in patients advanced breast cancer significantly enhances treatment cheniya and improve the prognosis of the disease. In Women who underwent palliative mastektomy, 3- and 5-year survival increased by 36% and 29% respectively, while the length life, 18 months, compared with patients conservative treatment.

Abstracts – Clinical Issues: Supportive and Palliative Care

OR108

A TARGETED SURVEY OF BELONG.LIFE ADVANCED BREAST CANCER (ABC) PATIENTS (PTS), FOCUSING ON PATIENT'S REPORTED OUTCOMES (PROS), REAL WORLD EVIDENCE (RWE) AND INSIGHTS IN REDUCING THE BURDEN OF FINANCIAL TOXICITY (FT)

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Background: 151 ABC pts, active Belong.life users, the world largest, anonymous and free social media for cancer pts and caregivers, replied to a targeted survey on patient's unique financial burden experienced during their cancer diagnosis and treatment journeys. They provided in-depth information and real world evidence, sharing tips in how to ease the effects of financial toxicity. The data received was analyzed by scientists using Artificial intelligence (AI) and machine learning (ML) engines to determine the prevalence and characteristics on the real-world occurrence of FT in ABC pts.
Results: 151 female pts replied to the survey, mostly USA based (119, 79%). 41 pts (27%) were less than 50 years (yrs.), 89 (59%) between 50 and 65 yrs. and 21 (14%) more than 65 yrs. 83 pts (55%) were actively working at the time of ABC diagnosis. 51(61%) reported to have "difficulties in my workplace". 106 pts (87%) replied that they experienced financial difficulties during their cancer journeys, 28 (26%) were <50 yrs. and 78 (74%) were in the >50 yrs. groups. 54 pts (57%) reported financial burden due to high medical copayments, 51 of them (94%) were USA based. 50 pts (52.5%) reported being off work, while high drug costs were reported by 36 pts (38%) and 12 pts (13%) mentioned living and transportation added costs. When asked how they managed their financial difficulties, most of the pts claimed to receive support from family and friends (41,49%), while others were supported by advocacy groups (11,13%), and from crowdfunding efforts (11,13%). Due to financial difficulties, 22 pts (26%) choose a less expensive drug, delayed their treatments or used alternative medications. 76 pts (50%) were willing to share tips in how to ease the effects of financial toxicity and those included: becoming aware of the high cost of available medications, receiving supportive services, financial counseling and planning, being granted acceptable medical leave, facilitating changes to insurance coverages, addressing costs for out of pocket services, as well as having provisions for domestic assistance, transportation and childcare, and home health care services.
Conclusions: Pts with ABC may experience considerable FT compared to those with early breast cancer or other cancers. Most of the current published data is focused from the perspectives of the providers, pharma and medical insurances. In this unique survey of Belong.life users, we documented RWE of high FT in the majority (87%) of ABC pts, with USA based pts claiming high medical copayments as the main contributor to their FT (nearly 5 times higher than the rest of the world pts). Responders to the survey also shared relevant insights in how to cope with the widespread reality of economic burdens affecting them.

PO109

SELF-MANAGEMENT SKILLS AS PREDICTORS OF POSITIVE AFFECT AND SOCIAL WELL-BEING IN METASTATIC BREAST CANCER PATIENTS

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Objectives: The present investigation aims to examine whether higher perceived self-management skills (PSMS) are predictors of higher levels of positive affect and social and family well-being in metastatic breast cancer (mBCa) patients.
Background: There is growing interest in examining associations between salutary psychosocial factors and better quality of life and well-being in cancer patients. Maintaining positive affect and a sense of social and family well-being has been associated with salutary health indicators such as lower inflammation. Previous studies indicated that higher levels of perceived stress-management skills (PSMS) are associated with lower perceived emotional distress in non-mBCa and in mBCa patients, but less is known about the association between PSMS, positive affect (PA) and social and family well-being (SFWB). Here we tested the hypothesis that higher PSMS is significantly associated with higher levels of PA and SFWB in women with mBCa.
Materials and methods: Participants are 38 mBCa patients treated at our center in their initial metastatic phase with no CNS impairment and 0–1 ECOG. We measured PSMS with the Measure of Current Status (MOCS) part A for all patients. The PSMS measures skills such as the ability to relax at will, recognize stress-inducing situations, restructure maladaptive thoughts, be assertive about needs, express anger effectively and appropriately, and choose appropriate coping responses as needed. Positive affect was assessed for 38 patients with The Positive and Negative Affect Schedule (PANAS); and social and family wellbeing with the Functional Assessment of Cancer Therapy, (FACT-SWB). Multivariate linear regression analysis was used to assess the associations between PSMS, PA and SFWB, controlling for age and educational level effect.
Results and conclusions: Greater PSMS was associated with greater PA ($p < 0.001$) and the regression model accounts for 55.4% of the variance ($p < 0.001$). Greater PSMS was also associated with greater SFWB ($p < 0.004$) and the model accounted for 41.5% of the variance. Age and educational level did not contribute significantly to outcomes, all p's >0.20). These findings suggest the relevance of implementing stress-management interventions with mBCa patients to improve their positive affect and their familiar

and social wellbeing, which may contribute to better health outcomes in this population.
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PO110

EMOTIONAL DISTRESS AND BRAIN FUNCTIONING METABOLISM IN METASTATIC BREAST CANCER PATIENTS: A NEURO-IMAGING STUDY WITH 18F-FDG PET/CT

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Objective: To examine whether emotional distress (ED) (i.e., negative affect, anxiety and depression) is associated with metabolic alterations in specific brain regions namely the ventromedial prefrontal cortex (vmPFC), lateral PFC (lPFC), anterior cingulate cortex (aCC), basal ganglia (BG), amygdala (Amy), hippocampus (Hi), hippocampal formation (Hp), hypothalamus (Hy) and insula (Ins) in metastatic breast cancer (mBCa) patients.
Background: According to previous published neuroimaging studies, the vmPFC, lPFC, aCC, Amy, Hi, Hy, BG and Ins might be potentially involved in ED processes in cancer patients. Their interference with regulation of autonomic, neuroendocrine and immune systems, which are known to contribute to cancer growth and poorer health outcomes, might be related to metabolic rate changes. Research in this domain can help to understand brain-mediated mechanisms that may explain the effects of ED on cancer progression and long-term health outcomes.
Method: 60 mBCa female patients (60 ± 11 y.o.) with no neurological impairment and all autonomous underwent brain PET/CT with 18F-FDG. ED was assessed using the Hospital and Anxiety Depression Scale and the Brief Symptom Inventory to dicotomically classify them as anxious (n = 30) vs non-anxious (n = 30); depressive (n = 34) vs non-depressive (n = 26); distressed (n = 23) vs non-distressed (n = 37), using clinically defined cuttoff scores. A dataset of 18F-FDG PET/CT images from a healthy group of 28 female (76 ± 5 y.o.) from the Alzheimer's Disease Neuroim Initiative was used as control group (CG). All images were spatially aligned to the Montreal Neurol. Inst. space, smoothed and intensity normalized. Mann-Whitney tests were performed to test for distribution uptake differences in the regions of interest between the ED vs non-ED, ED vs CG, non-ED vs CG. Correction for age was applied when comparing ED and non-ED mBCa patients uptake against the CG. A significance level of 5% was defined without corrections for multiple comparisons.
Results: Mean brain uptake per region was lower in the ED patients compared to non-ED and CG. Regarding distress, statistically significant differences were found in vmPFC, lPFC, Ins, Hi, Hp of ED vs non-ED patients and in all regions of ED vs CG. Anxious and depressive patients revealed the same trend, with statistically significant differences found in a smaller number of regions. Non-ED (no-anxiety, no-depression, no-distress) patients showed slightly lower uptake in all regions, compared to CG, mainly in the Ins, BG and Hi. In conclusion, mBCa women with ED revealed reduced metabolism in some key brain regions associated with stress-related biobehavioral pathways known to contribute to cancer progression and long-term health outcomes.
Funded by FCT: PTDC/MHC-PSC/3897/2014).

PO111

EVALUATION OF DEPRESSION AND ANXIETY IN YOUNG WOMEN WITH METASTATIC BREAST CANCER

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Background: Young adults with cancer experience disruptions in their normal developmental trajectories and commonly experience psychologic distress related to their diagnoses. Young women with metastatic breast cancer (MBC) are at particular risk of adverse mental health outcomes. We sought to determine the prevalence of and factors associated with anxiety and depression symptoms in young women with newly diagnosed MBC.
Methods: A total of 54 women with newly diagnosed MBC were identified from an ongoing, prospective cohort of women diagnosed with breast cancer at age <35. Depression and anxiety symptoms were assessed using the Hospital Anxiety and Depression Scale (HADS). Items assessing socio-demographics, physical symptom burden, social support, and disease and treatment history, with complementary medical record review, were used to assess variables potentially associated with anxiety and depression symptoms.
Results: Mean HADS Depression score was 4.4 (standard deviation = 3.7) and mean HADS Anxiety score was 7.9 (standard deviation = 5.0). Eleven (20%) women scored ≥8 on the HADS Depression subscale, the suggested threshold for depression/anxiety screening, and 24 (44%) women scored ≥8 on the HADS Anxiety subscale. In a multivariable model of anxiety, higher physical symptom scores (odds ratio = 4.41, p = 0.005) was significantly associated with higher anxiety scores. None of the other variables improved the model fit.
Conclusion: In this study, a considerable proportion of young women with newly diagnosed MBC experienced anxiety symptoms, although depression was less common. Future strategies focused on distress reduction in young MBC patients should focus on physical symptom management as well as anxiety identification and management.

PO112

QUALITY OF LIFE AND PSYCHOSOCIAL NEEDS OF METASTATIC BREAST CANCER PATIENTS

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Background: Review prior literature and patient survey reports related to metastatic breast cancer (MBC) patients' quality of life (QoL) needs, and assess extent to which local organizations are meeting them.
Methods: (1) Research findings of >150 published, peer-reviewed research articles including quantitative and qualitative studies of MBC patients and their families, were summarized around the realities of living with MBC. (2) 13 surveys of ~8,000 MBC patients were examined for common concerns. (3) Desk research analysis of leading nonprofits' patient advocacy, research, education and support (n = 16); and interviews with leadership about services for patients (n = 16).
Results: The extensive research base around MBC QoL issues was summarized into 6 categories: psychosocial distress; emotional support; information about the disease, its treatment, and resources; communication and decision making about care; relief of physical symptoms; and practical concerns. Sources of emotional support, individual and group psychotherapy, and counseling, as

well as adequate information about the disease, its treatments, and methods to alleviate symptoms and side effects have been shown to be useful in helping patients cope with MBC. However, patients are typically not well informed in areas required for decision making about their care, and patient–clinician communication can be difficult. MBC symptoms and side effects of continuous treatment, fatigue, sleeping difficulties, and pain, and emotional distress interfere with daily life; supportive and palliative care is often insufficient. While the majority of the major local breast cancer advocate organizations focus on meeting the support needs of the breast cancer community, not enough attention is paid to the MBC patient population. Gaps in information include lack of detailed information on latest treatments, QoL, palliation, communication with health care providers, and advanced directives and end-of-life care.
Conclusions: While QoL issues for MBC patients/caregivers are well understood, the resources and commitment to address these issues are still lacking. Targeted information and support services addressing QoL needs are as necessary to patients as medical treatments.

PO113

DOES BEING UNMARRIED AFFECT THE TIME PRESENTATION AND TREATMENT COMPLIANCE OF PATIENTS WITH ADVANCED BREAST CANCER?

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Introduction: Advanced breast cancer (ABC) remains common in Singapore. In Southeast Asia, 7–10% of newly diagnosed breast cancer patients present with de novo metastases [1]. 28.8% of patients in Singapore presented with advanced breast cancer in 2012 [2]. Although the national breast cancer screening program was started in 2002, the incidence of ABC has not improved significantly [3,4,5,6]. This suggests innate differences in women who present late [7]. Being unmarried has surfaced as a possible factor for delayed presentation of breast cancer [8,9].
Aim: Establish if patients with ABC are more likely unmarried, and to determine the association of marriage on compliance to treatment.
Methodology: This is a prospective study carried out of 72 consecutive patients presenting with ABC in a single tertiary institution between December 2013 to February 2015. A review of the psychosocial circumstances and clinical progress of this group of patients was performed.
Results: The median age of our ABC patients was 59 years old (29–83). 61.1% of patients diagnosed with ABC were married, while 38.9% were unmarried or divorced. Being unmarried did not significantly affect compliance to treatment ($p = 0.61$), nor 5 year OS ($p = 0.35$). The presence of a companion during clinic visits also did not have any statistically significant effect on compliance to treatment ($p = 0.74$). However, the median 5 year OS was more than 60 months in those compliant to the prescribed treatment, as compared to 41 months in patients who were partially or non-compliant to treatment ($p < 0.01$).
Discussion: The prevalence of unmarried ABC patients (38.9%) is similar to the Singaporean population, where 42.5% of women were not married or divorced in 2018 [10]. There does not appear to be a relation between being unmarried, it's perceived decreased social support, and patients' time presentation of breast cancer nor compliance to treatment. This is likely because patients who are unmarried have other social mechanisms for coping with stressors in their lives.
Conclusion: There does not appear to be an association between marriage, time presentation of, nor compliance with treatment of ABC. Compliance to treatment independently affects OS.

PO114

ROLE OF SUPPORTIVE CARE IN IMPROVING QUALITY OF LIFE AND REDUCING UNSCHEDULE HOSPITAL CARE

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Background: Among patients with metastatic breast cancer (MBC), supportive care (SC) needs are both highly prevalent and enduring. However, little is known about whether meeting patients' needs is accompanied by increased quality of life (QoL) and decreased of unscheduled hospital care (UHC). We aimed to explore the impact of supportive care on QoL and on UHC in MBC.
Material and methods: 100 patients with MBC without ongoing supportive care were offered SC at the beginning of a new line of chemotherapy or hormonotherapy. SC were selected based on patients' needs. Unscheduled hospital care was defined as a hospitalization or a visit to the emergency room. Quality of life was assessed with SF36 at inclusion and then at months 3, 6 and 12.
Results: 22 patients refused to perform supportive care: geographical distance ($n = 8$), misunderstanding of the benefit of SC ($n = 8$) or of the study ($n = 1$), lack of motivation ($n = 4$), other ($n = 1$). In univariate analysis, UHC was more frequent in older patients (mean age: 73 yrs. vs. 62 yrs.) and in patients with previous metastatic treatment (83% vs. 46%) or multiple metastases (67% vs. 41%). In multivariate analysis lack of previous metastatic treatment ($p = 0.0001$) and being less than 65-year-old ($p = 0.01$) were predictive of a lower rate of UHC whereas supportive care tended to reach the threshold of significance ($p = 0.059$). The overall SF36 score was not changed between inclusion and M12 (1728 vs. 1817). Among the 8 scaled scores of SF36, only general health perception (GHP) was improved at M12 (50 vs. 30, $p = 0.01$), more particularly in patients with no previous metastatic treatment (88% vs. 12%), with no cancer progression (66% vs. 34%), with anticancer treatment carried out as planned (82% vs. 18%). Patients who had at least one supportive care (87% vs. 13%) or followed by the pain team (59% vs. 41%) also had an improvement of their GHP. Subsequent multivariate analysis showed an association between GHP and the lack of cancer progression ($p = 0.002$), treatments carried out as planned ($p = 0.0004$) and follow-up by the pain team ($p = 0.003$).
Conclusions: Supportive care could improve QoL and decrease UHC. Given the considerable proportions of treated MBC patients, stronger and continuing efforts seem warranted to increase QoL and to reduce health care costs. Further studies are needed to confirm these results.

PO115

VALIDATION OF THE CALM MODEL, A BRIEF PSYCHOTHERAPEUTIC INTERVENTION, FOR ABC PATIENTS IN THE PORTUGUESE CONTEXT: A SPARC MBC CHALLENGE PROJECT

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Psychological distress and specifically depression are common in patients with advanced cancer and the progression of disease

brings multiple predictable challenges. However, there are very few cost-effective evidence-based interventions that address these specific needs of this population. CALM (Managing Cancer and Living Meaningfully) is a brief intervention model recently developed in Canada for this purpose. CALM includes 3 to 6 individual sessions, each approximately 45 minutes in length, delivered over 3 months, that cover 4 critical domains for this population: (1) symptom management and communication with health care providers; (2) changes in self and relations with close others; (3) spiritual wellbeing, or sense of meaning and purpose; (4) preparing for the future, sustaining hope and facing mortality. CALM has been successfully tested in Canada and other countries, showing significant reductions in depressive symptoms and death anxiety in therapy participants and a significant improvement in spiritual wellbeing over time. In Portugal there are no available short cost-effective psychotherapeutic interventions to address psychosocial needs of advanced cancer patients. Our objectives are: to test the feasibility of the CALM therapy intervention in Portuguese patients with ABC, specifically the effectiveness of this intervention in reducing depression and other psychological distress in this population, and its suitability for our cultural context; and to increase the availability of psychosocial resources to address the specific psychosocial needs of ABC patients and as such to reduce the current gap of psychosocial care for this population in Portugal.

Methods: Conduct a Phase II single-arm, intervention only study, with assessments at baseline, 3 months and 6 months, with ABC patients treated at the Champalimaud Clinical Centre, Lisbon, Portugal. Primary outcome: depressive symptoms will be assessed by PHQ9. Secondary outcome measures include: FACITSp, measure of spiritual wellbeing in palliative care; Death and Dying Distress Scale (DADDS); Experiences in Close Relationships Inventory (ECRM16); and the Clinical Evaluation Questionnaire (CEQ). We will also collect additional information including demographics and relevant clinical data. The study has been approved by the Ethics Committee and recruitment of 30 patients over an 12 month period is underway at the Breast Unit. Eligible participants will receive the CALM individual semistructured psychotherapy. The Canadian CALM team is closely monitoring and supporting the study. Preliminary results will be presented.

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PR116

EFFECT OF A BREAST CANCER SUPPORT GROUP ON DISTRESS AND QUALITY OF LIFE OF METASTATIC CANCER PATIENTS

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Purpose: The study was designed to assess the effect of a breast cancer support group activities on breast cancer patients' self-reported distress level and quality of life. Methods: A total of 18 breast cancer patients who participated in an eight session breast cancer support group and completed both the pre and posttest questionnaires were included in this study. The primary outcome variables for this study were quality of life and distress. These outcomes were assessed using the NCCN Distress Thermometer (DT) and The Functional Assessment of Cancer Therapy, Breast plus Arm Morbidity (FACT-B+4) respectively. Data analysis: Paired sample t-test was used for data analysis on IBM SPSS 21.

Results: The participants had a mean age of 51.11 with an age range of 31 to 70. Most had a secondary school level of education (54.5%), were traders (58.8%) and had stages 3 or 4 disease (67.4%). A larger proportion 14 (77.8%) of the patients lived outside Ibadan, while 4 (22.2%) of the patients lived in Ibadan. Out of the 8 sessions, 12 (66.7%) of the participants attended 1–3 sessions while 6 (33.3%) attended 4–7 sessions. There was significant improvement in the emotional wel-lbeing ($t = -4.253$; $p < 0.05$) and functional well-being ($t = -2.191$; $p < 0.05$) of the patients. There was also a significant reduction in the distress thermometer score ($t = 2.345$; $p < 0.05$) indicated by the patients but the problem list was not significantly reduced ($t = 1.191$; $p > 0.05$). 75% of the patients rated the support group activities as satisfactory, 12.5% as moderately satisfactory and 12.5% were unsatisfied. What patients liked most about the group include the questions and answers session and the reviving of hope in the patients.

Conclusion: This study shows that breast cancer support group has the potential to benefit breast cancer patients in terms of reduced self-reported distress level and improvement in the functional and emotional well-being indices of quality of life.

PO117

BONE MARROW BREAST CARCINOSIS: PATHOLOGICAL, CLINICAL PARAMETERS AND OUTCOME. A SINGLE INSTITUTION'S EXPERIENCE

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Background: Bone marrow carcinosis underlines advanced tumor stage with nonspecific clinical and hematological symptoms. Diagnosis is based on bone marrow biopsy, but biopsies are not part of the routine work-up. There are no plenty of data on the correlation between clinical presentation and pathological findings.

Materials and methods: In this study, we aimed to evaluate the clinicopathologic characteristics and prognosis of breast cancer patients with bone marrow metastasis (BMM). One hundred twenty patients were evaluated retrospectively. All patients had osseous metastases, and the vast majority of them multiple bone lesions. Anemia/thrombocytopenia were the most frequent findings at their monitoring. In our center study, 12 breast tumor patients with bone marrow carcinosis were recorded. Bone marrow biopsies were fully evaluated.

Results: The median age in these 12 patients (11 women, 1 man) was 68 years. The most frequent diagnoses were ductal breast cancer (n = 10) and triple negative cancer (n = 2). HER2 (+) patients were only 2. Anemia (98% of patients), thrombocytopenia (50%), and elevated LDH (25%) were the most frequent findings. Bone marrow infiltration was highly variable and accounted between 60 and 98% of biopsy specimen. Significant bone remodeling was present in only 4/12 biopsies. The only correlation found between histological and radiological findings was in 3 patients having PET CT Scan indicative infiltration. Treated patients with weekly chemotherapy/hormonotherapy/radiotherapy showed unfortunately partial clinical and laboratory improvement. The overall survival was extremely poor (median 4 months, range < 1.5 to 11.5 months). Survival post marrow infiltration diagnosis in grade III tumors was significantly shorter than in patients with grade II. Hormone receptor-positive, high-grade, and advanced-stage at the time of initial BC diagnosis/evaluation were more common in patients with BMM.

Conclusions: Anemia and thrombocytopenia are frequently associated with bone marrow carcinosis, but are nonspecific. Therapy

options based on parent's performance status should be evaluated, although are often limited and the prognosis still remains bad.

PO118

INTRODUCING A MOBILE APP FOR CANCER CARE IN NIGERIA: INTEGRATING THE NEEDS OF ADVANCED BREAST CANCER PATIENTS

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Background: Over 80% of Nigerian women are diagnosed of advanced breast cancer (ABC). There are a number of patient and system-centered factors contributing to late presentation/diagnosis of breast cancer in Nigeria. Poor awareness, misconceptions of breast cancer, misdiagnosis, failure to self-discover breast masses, delay in accessing cancer treatment, and poverty have become factors responsible for progression from early diagnosed breast cancer to advanced breast cancers. In 2018, 26,310 cases of breast cancer were diagnosed and 11,564 breast cancer deaths were recorded; with this number- breast cancer has become the leading cause of cancer death in Nigeria. Women living with advanced breast cancer are often neglected and rarely receive optimum palliative care. Public investment, advocacy programmes and interventions are usually tilted towards prevention, and very limited focus on advanced breast cancer. With a population of over 190 million people, there are over 20.5 million smartphone users in Nigeria. Leveraging on mobile technology to improve the quality of life of advanced breast cancer patients, breast cancer awareness and outcomes provides an opportunity to give happy ending to thousands of women battling advanced breast cancer in Nigeria. Simple technologies like mobile applications (apps) are increasingly enriching the healthcare sector with innovative apps for weight loss, depression, diabetes, fitness and other healthcare needs. The study delved into understanding the needs of women living with ABC and how their needs can be integrated into a mobile application for cancer care in Nigeria. This study was designed to obtain the opinions of advanced cancer patients about the use of mobile applications in addressing the needs of living with ABC.
Method: The study is cross-sectional and would adopt a purposive and convenience sampling methodology. 150 advanced breast cancer patients receiving treatment from 4 hospitals across Nigeria participated in the study. They were interviewed regarding whether their willingness to adopt mobile applications and opinions regarding what they think will be helpful on them in an app were also asked.
Results: Preliminary results showed that ABC needed culturally accepted information regarding their state of health, psychological support, second opinion, treatment options, and a networking opportunity with other women living with ABC.

PO119

"FACTORS INFLUENCING LATE PRESENTATION FOR HEALTH CARE AMONG WOMEN WITH BREAST CANCER ATTENDING HOSPICE AFRICA UGANDA (HAU)"

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"Factors influencing late presentation for health care among women with breast cancer attending Hospice Africa Uganda (HAU)".

Problem statement: Late presentation for health care among patients with Breast Cancer is a major problem in Uganda. Breast Cancer is one of the curable cancers if caught in its early stages. World Health Organization (2010) reports that esophageal cancer is the second most common cancer among men and was responsible for over 25000 death in 2010, approximately 80% occurred in developing countries. It was projected that it will increase by 25% over the next 20 years if nothing is done like putting prevention measures of adequate screening and treatment into place.
Methodology: A recording tape was used to store all the discussions for flexibility. The recorded material was first transcribed from local language then translated into English. Different themes was identified and then coding was done to come up with clear relations to the topic.
Results: The results was also be presented to Hospice Africa Uganda and Mulago national referral hospital for management and proper planning. The 60% of the patient had social issues like no transport neither finical support to access or report at the health facilities. The 40% of these patient had financial support but did not have time to visit the health workers.
Conclusions: In conclusion, the themes realized which contributed to the late presentation for health care, could be grouped under three main factors: Socio-economic factors, Health system factors and Patient and community factors. These factors are interdependent. These need to be addressed by the responsible personnel in order to realize a change for the better in the health seeking mannerisms of patients.

PO120

THE SPARC METASTATIC BREAST CANCER CHALLENGE: OUR EXPERIENCE IN CAMEROON

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Background: SPARC Metastatic Breast Cancer Challenge offers a unique opportunity to enhance our skills for women with Metastatic Breast Cancer.
Our main objectives: Using social Media and an ambulatory patient care program, we planed to:

1. Establish a holistic palliative care pilot program, home visits and regular telephone calls to patients.
2. Introduce collaborations with traditional healers.
3. Initiate training and research on palliative care for health professionals.
4. Develop communication strategies and provide patients with psychosocial support.
5. Implement strategies for the provision of pain relieve drugs such as morphine.

Results:

1. A well established and sustainable palliative care program is now available in our Medical Clinic. This was unexpected. Everyday at least one cancer patient visit our Center.
2. Traditional Healers have started sending some patients to our Center.
3. We have trained many Health Professionals. 10 Amongst them (including 4 medical doctors, 3 nurses and 3 laboratory scientists) have decided to work with us now as permanent staff and we now have a palliative chemotherapy unit.
4. We now have 2 whatsapp groups for our clinic were information are shared amongst patients and our staff.
5. We have established a collaboration with an NGO based in Paris-FRANCE which have equipped us with a microscope with numeric Camera, reagents and website for early detection and diagnostic facilities through a sustainable telepathology program.

6. Four medical Doctors from our Center are now following the ECHO training with the National Cancer Institute in USA.
7. Many other national and international collaboration have started in our Center and will be evaluated in the next future.
8. One Catholic Priest was trained in our program and is now building a network through catholic churches for psychological and social support for our patients.
9. Through this project, we have improved number of Breast Cancers detected in our Center and all these patients are now coming in our Clinic for the whole life.
10. We have started accessibility to treatment and palliative care for women diagnosed with breast cancer.
11. We have improved treatment outcome particularly among women with advanced stages of breast cancer,.
12. We now have a well trained permanent staff.
13. We have started home visit in Cameroon but this activity is expensive because we have to travel for more than 24 hours to reach some of our patients in rural area and this will not be sustainable without additional financial support.
14. We have established collaboration with other Hospital where we can buy liquid morphine at good prize and our staff will be able to prepare liquid morphine.

Conclusion: A sustainable holistic palliative care program is now available in our center.

PO121

THE REALITY OF HOLISTIC TREATMENT FOR ADVANCED BREAST CANCER PATIENTS IN GHANA

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Background: Breast Cancer is the most common cancer among women in Ghana with 4645 new cases annually. Majority of breast cancer cases in Ghana are diagnosed at locally advanced stages. Breast Care International (BCI) and Peace and Love Hospitals (PLH) are sister organisations founded in 2002 by Ghana's first female general surgeon to combat late stage presentation of breast cancer. Reasons for delayed presentation include lack of awareness and education, ignorance, severe social stigma, fear of diagnosis and treatment (hair loss during chemotherapy, general idea that mastectomy equals death within a year). In order to tackle late stage presentation, BCI was formed to organise free health outreach programs across Ghana. The activities of BCI not only increased the number early stage breast cancer presentation but also increased the number of women presenting with late stage disease. Most of these women presenting to the hospitals with late stage breast cancer will be coming from prayer camps or herbal centres where they have been supposedly receiving treatment since these centres advertise frequently across the country to cure NCDs. Others are sent to us from the centres when they start showing signs of metastatic disease.
Method: Semi-structured interviews were conducted in 2018 with 8 Ghanaian women at the Peace and Love Hospital in Kumasi, to find out what would make a woman with an early stage breast cancer default and re-present with a locally advanced stage. These women were receiving supportive and palliative treatment at the hospital and spend an average time of 60 mins on the road to get to us.
Results: All 8 women found a problem with their breasts and sought treatment.
3 women were referred >2 times at hospitals/clinics and defaulted because of finances. There was no communication between hospitals/clinics after referrals and the women didn't have a copy of their reports so imaging and tests have to redone. Referrals were further away from the women so transportation costs more.
1. woman defaulted surgery in 2016 due to finances.
2. women defaulted orthodox treatment to do herbal treatment; a cheaper alternative that advertises to cure breast cancer without harmful chemotherapy and surgery.
3. women had their first point of call as a herbal/prayer centre. Unlike these centres, hospitals are not allowed to advertise.

Conclusion: Healthcare workers should be educated on cancers and there should be a short effective referral system.
Herbal medications/herbal hospitals/prayer camps should not be allowed to advertise ability to cure cancers without any evidence.
Palliative Care must be developed and made accessible for those in need especially since we have a high percentage of late stage presentation.

PO122

A RETROSPECTIVE REVIEW OF PROGNOSIS AFTER COMPLETION OF METASTATIC BREAST CANCER SPECIFIC TREATMENTS AND HOSPITAL ADMISSIONS IN SOMERSET: EXPERIENCE FROM A SINGLE CENTRE

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Background: There is little available data on prognosis for metastatic breast cancer (MBC) once cancer specific treatments have ended. There is also scant data on hospital admissions in this cohort of patients.
Methods: All MBC patients diagnosed and treated at Musgrove Park Hospital are recorded on a database. Using this patients who died in 2018 were identified and their hospital records examined. Patients who were unfit for any treatment at the first contact with Oncology were excluded. We looked at the median survival after finishing treatment, the number of hospital admissions and number of days spent in hospital once active cancer treatment had stopped. The overall survival for this group was also calculated.
Results: 44 patients were identified. The overall survival was 35.12 months (range 3.5–113). The median survival after stopping cancer specific treatment was 84 days (range 8–730 days). 2 patients died from other causes, 1 from metastatic melanoma and 1 from complications of severe aortic stenosis and these were excluded from the analysis for hospital admissions. 42 patients had 158 hospital admissions with a total of 764 admission days. This equated to 3.76 admissions and 18.2 hospital days per patient. 25/42 patients had ≥3 admissions and 12 patients had ≥5 admissions.
Conclusion: There is a high admission rate for patients in the last few months of life after breast cancer specific treatment. Patients are spending 21.6% of their remaining time in hospital. All patients had been referred to Community Palliative Care services but these services are stretched. There is no Quality of Life Data from these admissions therefore further work is needed to address this issue to ensure an optimal pathway.

PO123

HOPE FOR PEOPLE LIVING WITH METASTATIC BREAST CANCER

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Introduction: As in any developing countries state of West Bengal in India has a huge burden of metastatic breast cancer patients in

advanced stage coming from rural area where awareness regarding the usefulness of palliative care in rather poor. Our goal is to give a pain free good quality of life in these advanced stage breast cancer patients.
Method: Advanced breast cancer patients in need of palliative care in various villages in of rural India were selected for this study. Their symptoms and managements in that rural surroundings were evaluated by an NGO (under the guidance of a senior palliative care specialist) working in that area. An attempt was made to identify the main obstacles in getting proper palliative care in a rural setting.
Results: Pain, fatigue are the main symptoms effecting these patients. In most patients pain and other symptoms control were grossly inadequate due to lack of properly trained manpower in the rural India. However regular homecare visits by a group of social workers were of immense help in the last few months of life. NGO team was well guided by a palliative care specialist.
Conclusion: There is a wide gap of trained manpower in this filled in rural areas of India. Dedicated groups from rural area itself need encouragement, repeated home visit, awareness built up, proper training to home care giver, so that difficult symptoms can be managed locally along with necessary social and psychological support to these patients.

PO124

WHAT NEEDS TO BE DONE? LIFE QUALITY ASSESSMENT IN ADVANCED BREAST CANCER PATIENTS

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Issues: Social-stigma, Fatigue, sexual-dysfunction, Sleeplessness, depression, pain common in Breast-cancer-sufferers. Supportive-care inaccessible in rural/tribal areas.
Objective: 68 women die/year from breast-cancer. statistically >90% express sexual-dysfunction, 68% experience unbearable-pain; 70% social neglect/humiliation, 54% sleeplessness, 37% complain fatigue and 64% depression. Importance of spirituality/religion in coping with terminal-illness is increasingly recognized.
Methods: We surveyed 70 women suffering from breast-cancer through QOL-questionnaires. After 14 weeks with psychosocial support, Counseling & palliative support with anti-depressants/pain-killers/nutrition QOL improved to statistically. Traditional faith-healers involved for more psychological impact on patients community.
Results: opioids administered in 35%. Diazepam as adjuvant-drugs in 23% patients. Pethidine common analgesic in 56% women, tramadol in 22%. >30% of cases were in advanced-stage. Our NGO-nurses that 20 specialist palliative care beds required for our Rural/tribal population of 6,00,000. significant correlations between higher scores of spirituality with absence of depression. Likewise higher scores of QOL (ANOVA $p < 0.001$) correlated with lack of sexual dysfunction/pain.
Conclusions: Life-span/QOL of breast cancer-sufferers depends on social acceptance & appropriate-supportive-care. NGO-personals should be trained in Palliative-care-services. These data used for advocacy. Spiritual well-being increases end-of-life despair in terminally-ill. Field of Spiritual/psycho-social/community support is fertile ground for further investigations.

PO125

PUBLIC HEALTH POLICY PAPER ON COUNSELING/ REHABILITATION NEEDS FOR ABC IN ASIA

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Background: Counseling/rehabilitation facilities available only in few city hospitals in Asia. Especially advanced breast cancer [ABC] sufferers who return to villages after chemotherapy need of these assistance. NGO's play key role in psychosocial-support/Counseling/rehabilitation. This Project aimed to formulate policy for trained personals to give better & cost-effective rehab-services.
Methods: Our not-for-profit palliative care team mobilized training resources from local Health-centers. Primary Training in Counseling & pain-management imparted to nurses. Team consisted social worker & nurse trained by physician. Local traditional faith-healers & community leaders involved for more community acceptance/participation. Four nurses & 10 volunteers trained till now. Aim to provide physical-comfort to patient, improve relationship with family members. For terminal breast cancer, gradually we prepared patient/family for death with dignity. Counselors managed pain & broke bad news of lung-ABC status to family.
Discomfort/anxiety due to severe pain decreases overall treatment efficacy 114 Patients enrolled during community out-reach-programs. Data collected on feedback-questionnaire. Most difficult tasks is discussing "end-of-life issues" telling diagnosis/its outcome, managing pain in terminal-cases. Till today 91 lung-Ca-patients shifted to specialty-hospital due to intractable pain.
Results: Counseling/rehabilitation must be made more accessible in rural-areas. This approach is also very cost-effective. Due to non-availability of trained-oncologists in rural areas this approach helps. We noted 90% responded favorably to counseling/nursing care, 87% showed willingness to motivate fellow patients to facilitate supportive-care-program of NGO's. Infact 19 patients themselves became regular active-facilitators in our NGO's cancer care-workshops. Our Holistic approach helped overcome hope-lessness/fear depression. Pain management/supportive care emerged very serious issue affecting QOL in ABC-patients. Young physicians need Improved access to specialized training/CME's on Counseling/rehabilitation tailored for ABC patients.
Conclusion: If more resources for cancer care are made available to oncology-workers, then NGO's can perform good job of Counseling/rehabilitation advanced breast cancer sufferers. Restricted resource-limitations didn't permit us to analyze this issue in large-sample-size, but we can collaborate with other cancer societies for larger effort. Our findings/recommendations most suitable to resource-poor-settings with guidance/modifications from ESO seniors.

Abstracts – Clinical Issues: Other topics

BP126

"I'M STILL HERE": INSIGHTS INTO LIVING – AND DYING – WITH ADVANCED BREAST CANCER IN NEW ZEALAND

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Like many other countries, New Zealand has suffered from a severe deficit of information about advanced breast cancer (ABC) incidence, treatment and survival. This study presents the first comprehensive statistical analysis of both recurrent and de novo

ABC data from the Breast Cancer Foundation National Register. The data is augmented by information gathered through a qualitative online panel of healthcare professionals treating ABC patients and a quantitative email-based survey of people living with ABC, to present a comprehensive picture of life with ABC.
The key statistical findings are that New Zealanders with ABC die faster than patients in comparable countries – median, one- and five-year survival rates are worse in New Zealand, with the gap widening in recent years. The median survival with ABC over the period 2000–2015 was 16 months. Further, Māori five-year survival was 5%, in comparison to 15% for non-Māori. Many New Zealand ABC patients appear to receive fewer treatments than patients in comparable health systems. The data highlights substantial inequity in the treatment and survival of all New Zealanders with advanced breast cancer.
From an experiential perspective, patients reported an inability to manage the physical and emotional symptoms of their disease and the side effects of treatment. Despite a claimed confidence in their ability to communicate with their medical team, they described an inherent attitude among clinicians that was distinctly different from the early breast cancer experience.
Clinicians reported wide regional variations, frustration at the lack of treatment options available, and the difficulties in knowing when to stop treatment. When confronted with the treatment and survival data, clinicians initially pushed back, feeling the data did not reflect their own practice. They raised issues of patients declining treatment or not being referred to oncology as potential explanations for the few lines of treatment given.
However, at the same time, clinicians acknowledged that New Zealand's poor metastatic breast cancer survival needs urgent action. The study identifies five areas of focus for change and innovation: medical care, symptom management, access to medicines, support, and investing in the future. Several clinicians have initiated further investigations of the data and consideration of a multidisciplinary approach to ABC treatment. A pilot of electronic symptom reporting (ePRO) is about to commence, and the development of local ABC guidelines is under active consideration. As a result of this study we find ourselves at a turning point, presenting an opportunity to transform the future care of ABC patients in New Zealand.

PO127

FEASIBILITY AND POTENTIAL HEALTH BENEFITS OF AN INDIVIDUALIZED PHYSICAL ACTIVITY INTERVENTION IN WOMEN WITH METASTATIC BREAST CANCER: RESULTS OF THE ABLE SINGLE-ARM TRIAL STUDY

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Background: About 5% of breast cancers are metastatic (MBC) at diagnosis and 20–30% of localized breast cancer become secondarily metastatic. Patients suffer from many detrimental symptoms related to metastasis and treatments. Only four intervention studies worldwide have focused on physical activity (PA) interventions in MBC patients. The ABLE study is designed to assess the feasibility of a 6-month PA intervention in MBC patients and the effects of PA on physical, biological, psychological and clinical parameters.
Methods: A cohort of 49 newly diagnosed MBC patients (French Ethics Committee A16-380; NCT03148886) have been recruited in an unsupervised and personalized 6-month PA program. At baseline and 6 months, we assessed anthropometrics, functional tests, biological parameters (inflammation, oxidative stress), questionnaires-based PA, quality of life, & fatigue, and tumor progression. Patients have worn a PA tracker which served both as a tool to record their own behaviour and maintain exercise adherence.
Results: The recruitment rate was at 94%. At baseline, participants' age was 54.7 years (SD 10.4), BMI was 25.9 kg/m^2 (5.7). Significant increase in distance during 6MWT (10.0%), extension force of the quadriceps (20.3%) and significant decrease of weight (2.0%), BMI (2.3%) and hip circumference (2.4%) were observed after the completion of the program. Mean walking steps during 6 months were 4799 per day.
Conclusion: The high recruitment rate shows the willingness of MBC patients to participate in this type of program. Preliminary data confirmed the need and desire of a PA intervention in the MBC population. This unsupervised PA program may encourage patients to maintain a long term physically active lifestyle.
Study funded by the National Cancer League, Odyssea and Activ'Ra.

PO128

EPIDEMIOLOGICAL PATTERNS OF BREAST CANCER

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Background: Breast cancer dominates among malignant diseases in the country. Upward trend of morbidity has been observed recently, which may be attributed to the introduction of the cancer registry in the country in 2015 and countrywide mass screening of the target population since 2011. It presented an interest to study epidemiological patterns of breast cancer with the accent on advanced cases in women.
Methods: Descriptive study was conducted based on the national surveillance data for 2015–2017 and national cancer registry, being operable since January, 2015. Screening date was obtained from the State screening program for 2015–2017. Secondary data analysis of the cross-sectional survey on chronic pain assessment in advanced breast cancer patients in palliative care clinic taken place during 2012–2014, was performed. Correlation analysis was employed. Study results were processed for statistical significance.
Results: Incidence of breast cancer has been increased in the country from 79.5 in 2015 to 97.5 in 2017. The vast majority of cases (71.5%–74.0%). were reported among women of the target age groups of mass screening. Increasing trend has also been observed in young women of the ages 20–39 and 40–44, however proportion of cancer cases in these age groups has not changed over years and remained almost equal. During 2015–2017 proportion of primarily detected cases at the 1st stage has slightly increased, however every third women was detected with advanced cancer at III or IV stage. Coverage level with screening of the age group 40–70 has increased over time but does not exceed 9% of the target population. Despite the low coverage with screening of the target population correlation analysis detected strong association between coverage and incidence rates ($\mu = 0.8$; CI = 0.79–0.81, t = 208). Spearmen Correlation coefficient was the lowest in the age group 70–74 ($\mu = 0.4$) and the highest in the productive ages 40–44 ($\mu = 0.98$).
Conclusion: 1. Upward trend in breast cancer incidence has been observed in women. 2. The vast majority of primarily detected cases were in women of productive ages. 3. Coverage level with screening doesn't exceed 9% of the target population over the past decade period, that most likely explains the high proportion of primarily detected advanced breast cancer cases in the country.

PO129

NEGATIVE IMPACT OF DISEASE PROGRESSION ON QUALITY OF LIFE OF PATIENTS WITH ADVANCED BREAST CANCER – DATA FROM THE TMK/MALIFE-PROJECT

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Introduction: The patient-relevance of progression-free survival (PFS) as an endpoint in clinical trials for advanced breast cancer (ABC) is under discussion, since there is no clear evidence for a correlation between PFS and overall-survival. Analyses regarding the impact of PFS on quality of life (QoL) have so far been inconclusive mainly due to lack of QoL data post progression or study designs skewed by confounders. What is the impact of progression on patient's QoL? Here we used data from the MaLife project to investigate this question.
Methods: MaLife is a longitudinal patient-reported outcome project within the Tumor Registry Breast Cancer (TMK), an open, multicenter, national cohort study which prospectively recruits patients (pts) at the start of their first (neo)adjuvant/palliative treatment for breast cancer. Besides patient and clinical characteristics, outcome data are documented from over 100 sites in Germany.
MaLife recruited pts from 12/2011–06/2016. Pts with ABC receive a set of questionnaires every 3 to 6 months for up to 5 years. This interim analysis focused on the Functional Assessment of Cancer Therapy-General version 4 (FACT-G) and the Hospital Anxiety and Depression Scale (HADS). All scores were transformed to a 0 to 100 scale for easier comparison. 464 pts with a completed questionnaire at start of treatment (T0) as well as at least one more questionnaire were included. The influence of disease progression on the changes of scores over time was analyzed with linear mixed models controlling for demographic and clinical covariates.
Results: Median age at start of ABC therapy was 62 years. Hormone receptor (HR) status was 76% positive and 22% negative, Her2-Status was 25% positive and 71% negative. 32% of pts received endocrine and 68% chemotherapy as first-line treatment. At database cut, at least one disease progression had been documented for 58% of pts. Questionnaire return rates for pts alive were 86%, 78%, 79%, 71%, 65%, 55%, 50% at 3, 6, 9, 12, 18, 24, 30 months. In total, 1750 questionnaires were evaluated.
First disease progression had a significant impact on most scales of the questionnaires. These scores deteriorated: FACT-G global score: 2.45, physical well-being (WB): 4.46, functional WB: 3.31, emotional WB: 1.94, HADS depression scale: 2.91, HADS anxiety scale: 0.79. Only social WB showed a slight improvement (0.62). The second progression showed an even stronger effect on functional and emotional WB as well as on depression and anxiety.
Conclusions: Our analysis shows that disease progression has a negative impact on diverse aspects of QoL in patients with ABC. Therefore, it should be discussed whether PFS might be considered as an additional patient-relevant endpoint in the evaluation of new treatments for ABC.

PO130

PATIENT-REPORTED OUTCOMES (PRO) IN PATIENTS (PTS) WITH HER2– ADVANCED BREAST CANCER (ABC) RECEIVING TALAZOPARIB (TALA) VS PHYSICIAN'S CHOICE CHEMOTHERAPY (PCT): A FOCUS ON EMBRACA GERMLINE BRCA1 AND BRCA2 MUTATION (GBRCA1/2M) SUBGROUPS

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Background: As part of the key subgroup analyses in EMBRACA, a 2:1 randomized open-label phase 3 study (NCT01945775), statistically significant improvements in progression-free survival with TALA vs PCT were observed in both subgroups: pts with HER2– gBRCA1m ABC (HR: 0.60, 95% CI: 0.39, 0.90; P = 0.01) and pts with HER2– gBRCA2m ABC (HR: 0.47, 95% CI: 0.32, 0.70; P < 0.001]. These post hoc analyses also evaluated PRO.
Methods: PRO was assessed at baseline (day 1), the start of each treatment cycle (every 3 weeks), and end of treatment, using the EORTC QLQ-C30 and breast cancer specific module QLQ-BR23. Higher scores in the global health status (GHS)/quality of life (QoL) and functional scales indicate better GHS/QoL and functioning respectively; higher scores in the symptom scales indicate worse symptom severity. PRO analyses for GHS/QoL using functional and symptom scales, were performed separately in gBRCA1m and gBRCA2m subgroups and included overall mean change from baseline (per longitudinal repeated measures mixed-effects model) and time to definitive clinically meaningful deterioration (TTD) (per survival analysis methods). Between-arm comparisons of TTD were made using stratified log-rank test and Cox proportional hazards model.
Results: Baseline scores were similar between arms. A statistically significant estimated overall change from baseline in GHS/QoL favored TALA vs PCT for both gBRCA1m (10.1, 95% CI: 4.5, 15.8; P < 0.001) and gBRCA2m (8.6, 95% CI: 3.6, 13.5; P < 0.001) subgroups. A statistically significant estimated overall change from baseline in patient-reported pain symptoms favored TALA vs PCT for the gBRCA1m (−14.8, 95% CI: −22.6, −7.0; P < 0.001) and gBRCA2m (−12.6, 95% CI: −19.0, −6.2; P < 0.001) subgroups. A statistically significant delay in TTD favoring TALA vs PCT was observed in GHS/QoL for both gBRCA1m (median: 13.8 vs 10.3 mo; HR: 0.51, 95% CI: 0.28, 0.93; P = 0.03) and gBRCA2m (median: NR vs 6.0 mo; HR: 0.29, 95% CI: 0.17, 0.50; P < 0.001) subgroups. A statistically significant delay in TTD favoring TALA was observed in patient-reported pain symptoms for the gBRCA1m (median: 21.5 vs 5.8 mo; HR: 0.25, 95% CI: 0.14, 0.45; P < 0.001) and gBRCA2m (median: 23.0 vs 10.4 mo; HR: 0.34, 95% CI: 0.19, 0.63; P < 0.001) subgroups. When comparing between arms, none of the analyses in either the gBRCA1m or the gBRCA2m subgroup yielded statistically significant PRO results favoring PCT.
Conclusions: In pts with HER2– ABC, TALA (vs PCT) resulted in significantly better change from baseline and significantly delayed TTD in GHS/QoL and patient-reported pain symptoms in both gBRCA1m and gBRCA2m subgroups; none of the analyses significantly favored the PCT. These results further support the positive risk-benefit profile of TALA vs PCT in pts with HER2– ABC and gBRCA1/2m.

PR131

COBALT OXIDE NANOPARTICLE CONJUGATED WITH THIOSEMICARBAZIDE SHOWS THE ANTICANCER ACTIVITY AGAINST BREAST CANCER CELL LINE (T47D)

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Today, researchers were attracted towards nanomaterials components for their potential role in cancer treatment. The aim of this research was to develop a novel and biocompatible cobalt oxide (Co3O4) magnetic nanoparticle (Co3O4 MNPs) that functionalized by glutamic acid (Glu) and conjugated to thiosemicarbazide (TSC) for anticancer activities against human breast cancer (T47D cell line). Chemical and physical properties the Co3O4@Glu-TSC MNPs were characterized by ultraviolet–visible (UV-Vis) spectroscopy, scanning and transmission electron microscopy (SEM and TEM), X-ray diffraction (XRD) and energy dispersive X–ray (EDX) analyses. The surface modification and conjugation was analysed by Fourier-transform infrared spectroscopy (FTIR). The SEM and TEM images and XRD analysis showed confirmed well-dispersed, highly stable, and mostly spherical particles of 25–50 nm. The anticancer properties of the Co3O4@Glu-TSC MNPs were evaluated by studied by MTT assay, flow cytometry and caspase-3 activity analysis. The MTT assay result showed increases in the cellular uptake of Co3O4@Glu-TSC MNPs and cell viability loss in a concentration-dependent manner with IC50 = 1000 μg/mL. The results of flow cytometry and caspase-3 activity analysis indicated the stimulation of apoptosis through an increase in Caspase-3 and nucleus fragmentation. In general, the results demonstrate the anti-cancer activities of Co3O4@Glu-TSC MNPs, and might be a safe approach for breast cancer treatment. However, further in vivo studies are required to evaluate this nanoparticle and potential toxic effects.

PR132

GREEN BIOSYNTHESISE OF SLIVER NANOPARTICLES USING GRACILARIA GRACILIS EXTRACT AND ITS EFFECT ON BREAST CANCER CELL LINE

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Background: Over the last few years, Silver nanoparticles (AgNPs) have attracted considerable attention owing to their anti-angiogenesis and anti-cancer activity. The aim of this study was to evaluate the cytotoxicity effects of biosynthesized AgNPs by using Gracilaria gracilis macroalgae on human breast cancer (T47D) cells.
Material and method: In this study, the biosynthesis of AgNPs by using Gracilaria gracilis was evaluated. The characterization of developed AgNPs was performed by Ultraviolet-visible (UV-vis) spectroscopy, Fourier-transform infrared spectroscopy (FTIR), X-ray diffraction (XRD), Scanning Electron Microscopy (SEM), and Transmission Electron Microscopy (TEM). The T47D was treated with various concentrations of fabricated AgNPs for 24. The viability effect of cells and Half maximal inhibitory concentration) IC50 (were evaluated by MTT assay. The fabricated AgNPs were monitored characteristic surface Plasmon resonance peak at around 420 nm. Results: The SEM and TEM results for size and morphological study of AgNPs was showed that the nanoparticles were spherical shape and ranging from 30 to 90 nm. The MTT results demonstrated that AgNPs significantly decreased the viability of cells in dose-and time-dependent manner. The IC50 value of nanoparticles for T47D cell line was calculated 32.35 μg/mL during the 24 hours.
Conclusion: Based on the current study, the biosynthesized AgNPs had cytotoxic effect against breast cancer cell line. Thus, it can be considered as a promising strategy for the treatment of breast cancer.
Keywords: AgNPs, Gracilaria gracilis, Breast cancer

PO133

HEALTH-RELATED QUALITY OF LIFE IN 2ND-LINE ENDOCRINE THERAPY FOR PATIENTS WITH ACQUIRED ENDOCRINE-RESISTANT POSTMENOPAUSAL ER-POSITIVE, HER2-NEGATIVE METASTATIC BREAST CANCER: THE HORSE-BC STUDY

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Background: Maintaining health-related quality of life (HR-QOL) is one of the most important outcomes for metastatic breast cancer (MBC) patients. Accordingly, endocrine therapy (ET) is often chosen as the upfront treatment option instead of chemotherapy for estrogen receptor-positive patients. HORSE-BC, a multicenter cohort study (UMIN ID: 000019556), previously demonstrated that 2nd-line ET for MBC patients with acquired endocrine resistance still provided a clinically meaningful benefit (presented by Araki at SABCS 2018). Here, we investigated HR-QOL in HORSE-BC.
Methods: The HORSE-BC study enrolled MBC patients with acquired endocrine resistance who were scheduled for 2nd-line ET. Patient-reported outcomes were assessed at baseline, 1 and 3 months after initiation of 2nd-line ET using the Functional Assessment of Cancer Therapy (FACT)-General and FACT-Endocrine Symptom (ES) scales. To investigate minimally important difference (MID) in the FACT-ES, we evaluated means and standard deviations (SDs) for the distribution method (Eton et al., J Clin Epidemiol, 2004), and differences of the change in HR-QOL between categories in six questions of the subjective significant questionnaire (SSQ) (Osoba et al., J Clin Oncol, 1998) for the anchor method (Eton et al., J Clin Epidemiol, 2004). We also investigated the association of HR-QOL and clinical benefit (defined as complete response, partial response or stable disease for 24 weeks).
Results: A total of 56 patients were enrolled, of whom 49 were analyzed. Median age was 66 years and baseline performance status were either 0 or 1 in 48 patients (98%). Forty patients (82%) had received fulvestrant as 2nd-line ET. HR-QOLs were measured in

49, 45, and 45 patients at baseline, 1 and 3 months, respectively. Mean (SD) of FACT-ES scores at baseline, 1 and 3 months were 137.37 (17.79), 137.53 (16.56) and 136.33 (20.18), respectively. Therefore, when defined as 1/3 SD estimates based on the distribution method, MID is calculated to be 6.06. MIDs based on the anchor method vary widely. For example, between "Better" and "No Change" groups evaluated by SSQ about the overall quality of life, the difference of the mean change in FACT-ES scores at 1 month from baseline was 4.64, while the difference of that at 3 months from baseline was −4.23. Among patients with clinical benefit, mean change in FACT-ES score from baseline to 1 month and 3 months was 1.5 and 2.29, respectively. On the other hand, −3.2 and −2.46 in those without clinical benefit.
Conclusions: MIDs in FACT-ES scores may be inconsistent between the distribution method and anchor method. Maintaining HR-QOL within 3 months as determined by FACT-ES may be associated with a clinical benefit in patients with acquired endocrine-resistant MBC treated with ET.

PO134

A FIVE-YEAR STUDY OF EPIDEMIOLOGICAL TRENDS AND SURVIVAL OF ADVANCED BREAST CANCER IN A HAITIAN CANCER PROGRAM

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Background: According to GLOBOCAN 2018, breast cancer is the most common cancer among women in Haiti. This study aimed to present the five-year epidemiological trends of advanced breast cancer (ABC) managed by a Haitian cancer program and evaluate overall survival for the study period.
Methods: A retrospective study was conducted on patients with breast cancer aged 18 years old or more at the cancer clinic of Innovating Health International (IHI) in Port-au-Prince, Haiti from January 2014 to December 2018. The chart review focused on variables such as age, gender, year of diagnosis, menopausal status, staging, estrogen receptor (ER) status, outcome and date of death. A systematic comparison between the age groups, stages, menopausal status, ER status and outcome through the years was performed to evaluate the trends. Overall survival (OS), overall mortality and loss to follow-up rates were also estimated.
Results: Nine hundred and thirty-nine (939) cases of breast cancer, among them 933 women and 6 men, were diagnosed and managed during the study period. The mean age of the cohort was 50.5 years [range 20–94], decreasing from 52.1 years in 2014 to 50.2 years in 2018 ($p = 0.29$). Patients under 40 y/o represented 21.8%% of this cohort, with the proportion increasing from 16.4% in 2014 to 21.6% in 2018 ($p = 0.19$). 90.1% of the staged patients ($n = 854$) had advanced breast cancer (stages IIB to IV). 28.3% of the patients had metastatic cancer (MBC), and the proportion significantly decreased from 39.3% in 2014 to 21.9% in 2018 ($p < 0.001$). There was a higher but non-significant proportion of MBC among patients ≥ 40 y/o (29%) versus those <40 y/o (25.1%) ($p = 0.3$). Of the patients with known ER status ($n = 401$), 56.9% were ER-positive, 54.8% among the <40 y/o versus 57.4% among the ≥40 y/o ($p = 0.69$). The overall mortality rate was 29%, 29.6% among the <40 y/o versus 28.9% among the ≥40 y/o ($p = 0.86$). ER-negative patients were more likely to be metastatic (OR = 1.42, $p = 0.16$) and die (OR = 1.84, $p = 0.006$) than ER-positive ones. The overall survival was 12.6 months for locally advanced breast cancer versus 5.7 months for MBC ($p = 0.001$). ER-positive status (15.4 months vs 10.4 months, $p = 0.13$), age at diagnosis ≥40 y/o (7.3 months vs 9.9 months, $p = 0.76$) and menopausal status (9.3 months vs 8.4 months, $p = 0.81$) were not factors significantly associated with better OS among patients with ABC. 10.5% of the patients were lost to follow-up.
Conclusions: There was a significant decrease of metastatic breast cancer cases from 2014 to 2018. This trend was most likely due to a combination of increased awareness and earlier referral. However, these measures need to be enforced to ensure earlier diagnosis of breast cancer in Haiti and thus improve overall survival.

PO135

CHOICE OF THERAPY: CLINICOPATHOLOGICAL FACTORS AND PATIENT FACTORS IN ELDERLY (80 YEARS<) ADVANCED BREAST CANCER PATIENTS

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Backgrounds: Recently, elderly breast cancer patients tend to be increasing. Japanese Breast Cancer Society reported that the proportion of breast cancer patients aged 80 and over is approximately 8.4% based on Cancer Registration in 2015. Elderly patients have more comorbidities and that is considered to be associated with tolerability of systemic therapy. Moreover, elderly patients sometimes have difficulties in social situation. These factors make it difficult for elderly patients to choose standard therapy. The aim of this study is to evaluate a relationship between choice of therapy and clinicopathorogical factors, patient factors.
Patients and methods: A retrospective study was conducted. The patients diagnosed as local advanced breast cancer: LABC (stage IIIB, IIIc) and metastatic breast cancer: MBC(stage IV) at the age of 80 and over from January 2009 to February 2019 were selected from medical records. To evaluate patient factors, Charlson comorbidity index(CCI) and social situation of EORTC Elderly Minimal Dataset(MinDS) were used.
Results: Among 37 elderly breast cancer patients, the median age at diagnosis was 84 years (range 80–101). The stages were as fellows, IIIB: 16 (43.2%), IIIc: 2 (5.4%), IV: 19(51.3%). Patients intrinsic subtype were Luminal: 22(59.5%), Luminal-HER2: 1(2.7%), HER2: 5(13.5%), Triple Negative (TN): 9(24.3%). The median CCI of LABC and MBC patients were 1(range 0–2) and 7(range 6–12). In social situation, 12 patients(32.4%) lived at home with someone, 12 patients(32.4%) lived at home by themselves and 9(24.3%) lived in institutional care. Among 18 LABC patients, 11 of 16 stage IIIB patients had T4b tumors, 5 of 16 stage IIIB patients had T4c tumors, and 2 of 2 stage IIIC patients had N3c lymph node metastasis. 8 of 11 (72.7%) T4b patients underwent surgery. None of T4c and N3c patients underwent surgery. 4 of 18 LABC patients had Low CCI (0), rest of them had medium CCI(1–2). 3 of 4(75.0%) Low CCI and 5 of 14(35.1%) medium CCI patients underwent surgery. Among 19 MBC patients, 11 patients (57.8%) were "de novo" and 8 patients (42.1%) were "recurrent" stage IV. 11 of 19(57.8%) patients had visceral metastasis at diagnosis. All of Hormone receptor positive patients (11/11) had endocrine therapy. Among 6 TN MBC patients, 2 patients (33.3%) underwent surgery and 2 patients (33.3%) had radiation therapy for local control. None of them had systemic chemotherapy. 14 of 19 patients had less than 9 CCI, and 5 of 19 (26.3%) MBC patients had 9 and more CCI. MBC patients with 9 and more CCI had better prognosis than others.

Conclusion: To make good choice of therapy for elderly advanced breast cancer patients, it is very important to consider clinico-pathorogical factors and patient factors such as comorbidities and social situation.

PO136

RADIOFREQUENCY ABLATION FOR LIVER METASTASES IN THE TREATMENT OF ADVANCED BREAST CANCER

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Background: Systemic therapy is the backbone of the treatment of advanced breast cancer (ABC) regardless hormonal status or HER2 expression. In the case of oligometastatic disease with liver involvement, radiofrequency ablation (RFA) could be considered a therapeutic option in order to prolong the clinical benefit of systemic treatment ongoing. To date, few data are available in this setting, most related to retrospective cases series. The aim of this study was to evaluate the efficacy of liver RFA in oligometastatic patients with ABC.
Methods: We reviewed 32 consecutive female patients with advanced breast cancer with liver metastases, treated in our Institution with RFA between November 2014 and September 2018. Patients with a follow-up shorter than 3 months were excluded. Survival was estimated according to Kaplan-Mayer method and Cox multivariable regression. Absence of hormone receptor expression and ECOG PS >1 have been considered exclusion criteria.
Results: All the patients included in the analysis had hormone receptor positive breast cancer. 47% of had only liver disease. Among the 32 pts, median age was 55.4 (range 38–74). HER2-positive subtypes were 22.0%. The majority (78%) had received <2 lines of therapy in the advanced setting, before undergoing RFA. At the time of RFA, 66% of patients was receiving hormonal therapy (HT) +/– biological agent (cdk 4/6 inhibitors or anti-HER2) and 34% of them was receiving chemotherapy. The number of lesions treated was 1 or 2 in the 90% of the cases. After RFA, only 3 pts developed asymptomatic bilomas, with no major complications. RFA was performed on progressive lesions in 59% of cases and on stable lesions in 41% of cases, as consolidation of response to ongoing treatment. After a median follow-up of 32.5 (4.1–90.9) months, 69% of pts had not evidence of disease (NED). Liver recurrence occurred in the 59% of cases. Median progression free survival was 34 (5–71) months. At univariate analysis, <2 lines of treatment, NED status at first radiological assessment and only liver disease resulted to be associated with an improved Progression Free survival (PFS) (HR: 0.33, 95% CI, 0.13–0.87, p = 0.025; HR: 0.39 CI 0.15–1, p = 0.05; HR: 0.19, 0.06–0.58, p = 0.004). The presence of liver only disease at the time of RFA is independently associated with improvement PFS in the multivariate analysis (HR: 0.19, CI: 0.05–0.70, p = 0.013).
Conclusion: The results of this retrospective study confirmed that liver RFA could be an option in oligometastic patients with HR-positive ABC, especially in patients with only liver disease, and may affect PFS. Prospective studies are needed to confirm these data.

PO137

STATUS OF ADVANCED BREAST CANCER CHEMOTHERAPY IN RESOURCE POOR NATIONS

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Issues: Anti-cancer-drugs [ACD] out of reach of>92% populations of Asia. Pharmaceuticals do provide substantial price discounts on ACD in resource-constrained-countries. But Price reduction, appropriate drug supply chain, monitoring are necessary. ESO needs to address cost-availability concerns of resource-poor-settings. Resource poor nations have little infrastructure for training in cancer-care.
Description: In developing countries unaffordable-chemo-cost leads to poor therapeutic compliance in advanced breast cancer. Since 2003 schemes working to reduce cost. National/international programs offer discounted Anti-cancer-drugs, diagnostics/technical assistance. need common methodology to facilitate development of sound/sustainable Low-cost chemotherapy-supply chain [Our institutes drug-supply-advocacy strategy/model extremely essential for developing nations].
Results: In last 5 years, plans established with 14 programs. Distribution shows 11 not-for-profit-society, 2 governments. Total 4 programs targeted at advanced breast cancer: 2 NGOs, government, 1 private/corporate/pharma sector initiatives. Major Lacunae is absence of co-ordination between cancer-treatment-centres & primary-healthcare-workers. Drug distribution/cost/nurses-training are neglected issues [Our printed 3 page Operational-Performa handouts available to ESO Participants].
Lessons learned: Pharmaceutical industry must identify, design newer options to make chemotherapy available to masses. FORUMs needed to implement/expand these cost-cutting measures of oncology drugs to supply in marginalized communities.
Recommendations: New-drug-development in oncology is in infantile stage in developing-nations. Promoting dialogue between public institutions/NGO's & Pharmaceuticals needed to accelerate resources-development & access to chemotherapy. We need to break north-south barriers for patients benefit. We young physicians/representatives from developing nations need exposure to research technicalities/methodologies used by European/American experts in ABC chemotherapy.
ITS genuine appeal to organisers need to allow us to raise our concerns & difficulties in ABC management at this ESO meeting platform.

PO138

PATTERNS OF TREATMENT FAILURE AND OUTCOME IN PATIENTS WITH TRIPLE NEGATIVE BREAST CANCER: EXPERIENCE IN A CANCER CENTER FROM NORTH-EAST INDIA

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Background: Triple negative breast cancer (TNBC) occurs most frequently in young women under the age of 50 and is associated with high risk of metastasis and death. We analyzed the prognostic factors for loco-regional and distant failure in patients with TNBC.
Methods: This is a retrospective study conducted on the data collected from the patient's record of histologically proven cases of

breast cancer that tested negative for estrogen receptor, progesterone receptor and human epidermal growth factor receptor 2 (HER2/neu) by immunohistochemistry from 2013 to 2016. Patients received surgery, chemotherapy and/or radiotherapy, either alone or in combinations.
Results: Total 70 cases were analyzed for the study. The mean age at presentation was 46.7 years (SD±8.9). At presentation, majority had advanced stage disease (stage III 50% and stage IV 11.5%) with bone being the most common (50%) metastatic site, followed by lung and liver. Fifty two patients had grade III infiltrating duct carcinoma (74%). Modified radical mastectomy performed in 45 patients, while; only 7 patients underwent breast conservative surgery. Anthracycline-based regimen was used in 52 (74.3%) patients who received chemotherapy in neoadjuvant or adjuvant setting. Additionally taxane was also used in 19 (24%) patients. Median number of chemotherapy cycles received was 6 (range 1–8). Only 37 patients (53%) had completed planned treatment. Median overall survival (OS) was 19 months and median progression free survival (PFS) was 18 months for the entire cohort. Use of additional taxane-based regimen resulted in improved median OS (35.0 vs. 17.0 months; P = 0.033). Median OS was significantly better in patients who had completed the planned treatment (27.0 vs. 14.0 months; P = 0.002). Three-year OS and PFS were 31.7% and 25.5% respectively. Five patients (7.1%) had chest wall relapse and 3 (4.3%) patients had nodal relapse. Relapse at distant site were seen in 24 patients (34.3%), with lung being the most common site, followed by bone and brain. Median time to distant metastasis was 17.5 months. We did not find any significant correlation between distant relapse rate with higher T-stages, presence of lymphovascular invasion, node positivity, and use of non-taxane based regimen.
Conclusion: Triple negative breast cancers have a poor prognosis with more distant relapse and have very limited therapeutic options available for salvaging these patients after distant failure. The molecular typing of TNBC is necessary to understand the complexity of the disease and to develop therapies to improve on survival.

PO139

METASTATIC TRIPLE NEGATIVE BREAST CANCER TO RIGHT COLON; AN UNUSUAL FIRST PRESENTATION: A CASE REPORT AND LITERATURE REVIEW

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Introduction: The most common sites of invasive breast cancer metastasis are: lungs, liver, bones and brain. Less frequent gastrointestinal tract, pancreas, spleen, thyroid, adrenals, kidneys, and female genital tract are affected. It is rare to diagnose a colon metastasis prior to detecting primary breast disease as an isolated metastasis. Metastatic lesions of the colon are rare clinical entity that may present management difficulties. The incidence of these metastases appears to be increasing, due to physicians' greater awareness and the therapeutic strategy is being debated.
Case presentation: We introduce the case of symptomatic colonic metastasis from breast carcinoma in a 77-year-old woman with a prior history of ductal breast cancer resected 5 years ago. She was still on aromatase inhibitor manipulation, when presented with abdominal discomfort and constipation. The subsequent colonoscopy showed hepatic flexure stenosis. The whole preoperative staging (bone scan, total body CT) highlighted the probable presence of a tumor growth of the ascending colon wall and underwent right colectomy. Biopsy recorded ulcerative, invasive metastatic grade III carcinoma of the cecum-ascending colon, breast originated {ER (−), PR (−), HER (−), p53 (+)CDX-2 (−), Ki 67:25%, with 20/55 resected lymph nodes fully infiltrated. Post colon surgery, mammography done, revealed no primary breast cancer and her post-operative treatment was a real dilemma.
Conclusions: Cases of metastatic breast cancer to the gastrointestinal tract have predominantly been published with lobular breast carcinoma associated. It is interesting to introduce colonic metastases as first triple negative breast cancer presentation; as a rare entity. All Physicians should be aware of this uncommon entity and better prepared to apply an efficient diagnosis and workup, considering the best treatment strategy. It is a triggering factor for colorectal oncology to exclude the colonic from other primaries neoplasms. The immunohistological analysis is still the cornerstone for differentiating metastases to colon.

PO140

LEPTOMENINGEAL CARCINOMATOSIS IN PATIENTS WITH BREAST CANCER: PATHOLOGICAL, CLINICAL PARAMETERS AND OUTCOME. A SINGLE INSTITUTION'S EXPERIENCE

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Background: Leptomeningeal carcinomatosis (LC) defined as leptomeninges infiltration by metastatic cells, is unfortunately a devastating complication of breast malignancies and spare recorded in literature underlining advanced tumor stage. Only 5% of patients with breast cancer develop leptomeningeal involvement, occurring at late-stages, presenting a bad complication, underlying systemic progression or sparsely present first clinical diagnosis of metastatic disease.
Materials and methods: In this study, we aimed to evaluate the clinicopathologic characteristics of breast cancer patients with LC. One hundred twenty patients were evaluated retrospectively. All patients had osseous metastases, and the vast majority of them multiple bone lesions. Headache/nausea and deteriorating vision were the most frequent findings at their monitoring. In our center study, 15 breast tumor patients with LC were recorded in the last 10 years.
Results: The median age in these 15 female patients was 63 ys. The most frequent diagnoses were ductal breast cancer gr II–III (n = 13) and triple negative cancer (n = 2). HER2 (+) patients were 8. Headache (100% of patients), nausea (50%), vision deterioration (25%), appetite loss (10%) were the most frequent findings. The proceeded diagnostic required CSF-cytological analysis and MRI. In 5 patients radiological findings in PET CT Scan were LC indicative. Therapeutically, combination of intra-CSF chemotherapy, systemic therapy, radiotherapy and/or best-supportive care were given. Intra-CSF chemotherapy was methotrexate plus dexamethasone. Radiotherapy was used for relieving obstruction on CSF-outflow channels due to ependymal nodules, or bulky disease in 4 cases. Althoughresponses have been reported with intrathecal trastuzumab for HER2-positive disease, we had not used that option. Treated patients showed unfortunately partial clinical relief/laboratory improvement (reduction burden load in CSF). The overall survival was extremely poor (median 2.4 months, range < 15 days to 3.8 months). Survival post LC diagnosis in grade III tumors was significantly shorter than in patients with Her/2+.
Conclusions: LC is a devastating condition with poor prognosis. Several possible mechanisms exist for the spread of a primary tumor to the leptomeninges. The improved radiotherapy techniques and probable new targeted treatments under investigation may provide improved survival. Without a high index of suspicion

and appropriate imaging the diagnosis can be missed and the patients under treated.

PO141

A CASE REPORT OF BREAST CANCER INCIDENTALLY FOUND DURING HEMATOMA TREATMENT

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A breast hematoma may be caused by trauma, or procedures such as a breast biopsy or breast surgery. Generally, breast cancer is not considered as the cause of breast hematoma.
Here we report a rare case of breast cancer diagnosed in a patient with the breast hematoma.
A 57-year-old woman presented with slowly increase in size and pain on right breast from two months ago. A mixed echoic lesion was observed ultrasonography in the outside primary clinic and it was estimated to be hematoma. She has been hit by a refrigerator door about two months ago. On physical examination, she had a palpable soft and non-tender mass sized about 10 cm in right breast. There was a 9 cm well-defined lobulating heterogeneously echoic mass on sonographic image. The lesion has a relatively well-defined margin with internal mixed anechoic and hypoechoic portions. Approximately 300 cc of old blood fluid was aspirated and the hematoma was disappeared. However, hematoma remained the initial state on week later and the surgical treatment was decided. A total of 200 grams of hematoma were evacuated and histological examination of the surrounding tissues of the hematoma was performed. Unexpectedly, the result of histology was invasive ductal carcinoma. A second surgery was needed for breast cancer. Positron emission tomography (PET) showed only focal hyper-metabolic lesion in the right breast operation site. The Breast MRI showed small nodular enhancing lesion suspected of residual breast cancer in right breast operation site lateral wall. The surgery was decided by modified radical mastectomy. The final pathologic stage was IIA (T2N0). She is receiving adjuvant chemotherapy.
In the management of breast hematoma, in which trauma history is not clear, biopsy confirmation is essential.

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BP66 Sexuality Assessment in Women with Advanced Breast Cancer
PO67 Ribociclib (RIB) + letrozole (LET) in patients with hormone receptor-positive (HR+), human epidermal receptor-2–negative (HER2–) advanced breast cancer (ABC) by dose intensity: preliminary subgroup results from the phase 3b CompLEEment-1 trial
PO68 Ribociclib (RIB) + letrozole (LET) in older patients (pts) with hormone receptor-positive (HR+), human epidermal growth factor receptor-2–negative (HER2–) advanced breast cancer (ABC): subgroup results from the phase 3b CompLEEment-1 trial
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PO71 A plain-language summary of the SOLAR-1 trial: studying alpelisib with fulvestrant in patients with HR+, HER2– advanced breast cancer who had previously received an aromatase inhibitor
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