were undertaken in patients with primary operable BC (n = 466). Secondly, protein levels of one of the target receptors for beta-blockers, β_2AR, was assessed as a candidate biomarker of clinical outcome using tissue microarray and immunohistochemistry (n = 689 cases).

Results: 92/466 patients received antihypertensive treatment and 43/92 (46.7%) BC patients were on beta-blocker treatment at the time of BC diagnosis and they showed a significant reduction in formation of distant metastases ($p = 0.03$) and local recurrence ($p = 0.003$). Moreover, they showed increased survival and 71% reduced risk of BC specific mortality, indicated by a hazard ratio of 0.288 ($p = 0.007$).

β_2AR protein expression was significantly increased in small tumours ($p = 0.006$) of low grade ($p < 0.001$) and lymph node stage ($p = 0.027$), characterized by positive association with luminal markers (CK18, ER, PgR: all $p < 0.001$). β_2AR expression did not significantly predict clinical outcome.

Conclusions: Beta-blocker treatment appears to significantly reduce metastasis and mortality in BC patients. Measurement of one of the beta-blocker target receptors, β_2AR, was not shown to be predictive for determining clinical outcome and other beta-blocker targets need investigating. Further studies are needed to validate the use of beta-blockers as a possible adjuvant therapy in BC.

Friday, 26 March 2010 15:30–17:00

EUROPA DONNA SESSION

Implementation of the European Union Guidelines for quality assurance in breast cancer screening and diagnosis

446 Invited

Breast specialist perspective

M. Rosselli del Turco[1]. [1]*EUSOMA, President, Florence, Italy*

Since 1990, in USA and many European countries, breast cancer mortality is decreasing by 1−2% per year, thanks to early detection and improved treatment. Breast cancer care is complex, onerous and expensive; therefore quality assurance is essential to monitor effectiveness and to guide improvements in healthcare.

In Europe there are wide differences in breast cancer care in terms of quality and offer of screening and treatment (mastectomy and radiotherapy rates, use of adjuvant chemotherapy and hormone therapy). It has also been shown that high quality screening programs and specialized breast cancer care are associated with a significant reduction in mortality.

The European Guidelines for Quality Assurance in Breast cancer screening and diagnosis (EG) were published in the first edition in 1993 under the scientific co-ordination of EUREF and were periodically updated: the current edition is the fourth, published in 2006. The first task of the EG was to improve the quality of the screening test (mammography): the protocol for physico-technical quality control of conventional mammography is a worldwide reference document, such as the protocol for quality assurance of digital mammography, included in the last edition. Then guidelines for epidemiology, pathology, radiology, training and communication have been developed within the European Cancer Network and, in co-operation with EUSOMA, different aspects of quality in breast cancer care as multidisciplinarity, surgical treatment and requirements of a breast unit, have been defined. All these documents are included in the fourth edition and represent a comprehensive document that all European breast-dedicated services should strictly follow.

The major tasks now are:

– to assure a periodic update of the EG according to new technologies and clinical evidence
– to expand quality assurance to other aspects of breast cancer care as medical treatment, radiotherapy, follow-up and patient support.
– to verify that the EG are effectively implemented in all Europeans countries.

It has to be noticed, anyhow, that the great success of the EG was due to the recognised professional skill of the AA, fully dedicated to breast cancer care, who have been able to demonstrate that quality can be reached by following standardised procedure and protocols.

447 Invited

Mammography screening − what is going on in Europe

L. Von Karsa[1]. [1]*IARC, Quality Assurance Group, Lyon, France*

Introduction: Europe leads the way world-wide in implementation of population-based screening. Breast cancer claims the lives of more women than any other cancer. According to 2006 estimates of the International Agency for Research on Cancer, 330,000 women in the EU are diagnosed with breast cancer and 90,000 women die from the disease every year [1]. In 2003, the Council of the European Union invited the EU member states to implement mammography screening programmes for women 50−69 years of age according to European Guidelines for quality assurance in mammography [2]. A Citizens' Guide to the EU Guidelines [5] has been published by Europa Donna, the European Breast Cancer Coalition. The ECN has also examined the extent to which population-based breast screening programmes recommended by the Council of the EU have been implemented in Europe.

Methodology: In 2007 a questionnaire was sent to the 27 EU member states by DG SANCO. Data from two pan-European projects in the EU Health programme were used to check plausibility and to supplement the data base: ECN and EUNICE (European Network for Information on Cancer). Population statistics were obtained from EUROSTAT or from national sources, if more recent data were available. The final report was based on information provided by official sources in all EU 27 member states.

Results: In 2007, publically mandated breast screening programmes were running or being established in 26 of the 27 EU member states. Population-based programmes were running or being established in 22 member states. In the member states which have adopted a population-based approach for breast cancer screening, the smallest target age range was 50−59 years and the largest age range was 40−74 years.

The greatest uniformity is reflected in the recommended screening interval which only exceeded a two-year period for women in the age group 50−69 years in two of the 26 member states.

Development and piloting of an EU-wide accreditation/certification scheme mandated by the member states and based on EU quality assurance guidelines would encourage programmes throughout the EU to take the initiative to continuously improve perfor-mance and would help consumers to recognize which services achieve the EU standards.

Conclusions: Despite the broad consensus among the EU member states in the expanded EU on the importance of population-based screening as a tool of cancer control, considerable effort will be required over the coming years to successfully implement current policies and to overcome existing barriers to successful programme implementation.

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Dr. Lawrence von Karsa, Quality Assurance Group, International Agency for Research on Cancer, Lyon, France

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448 Invited

Advocacy perspective

S. Knox[1]. [1]*European Breast Cancer Coalition (EUROPA DONNA), Executive Director, Milan, Italy*

The overriding mission of European breast cancer advocacy is to ensure that all European women have information on and access to state-of-the-art early detection, screening, and treatment of breast cancer. A main objective of Europa Donna-The European Breast Cancer Coalition (ED), has been to establish advocacy groups in all the countries of Europe in order to advocate for guidelines for best practice, i.e. implementation of the 2006 "European Guidelines for quality assurance in breast cancer screening and diagnosis" published by the European Commission. This has been our priority for the last few years and continues to be so for the foreseeable future until all women have access to these essential services for their breast health. ED uses this document as the basis for all its information, advocacy and lobbying programmes today. It is highlighted at all our conferences, at our advocacy training course, on our website and has even

been the focus of a PSA campaign in 2008. ED has written a "Short Guide to the EU Guidelines" and translated it into 8 different languages to provide a key tool for advocates to promote these concepts on a national level. This effort has been supported by the European Commission. In addition ED continues to be active at the European Parliament to press for countries to implement these services. While there are 2 resolutions on breast cancer already in existence, it is essential to keep Guideline implementation on the public health agenda. ED provided input into the Declaration on breast cancer that was launched in December 2009. In addition the development of a certification programme for specialist breast units is proposed within the new cancer partnership and ED will work toward this in 2010. ED continues to add members from countries where services described in the EU Guidelines are not well known or available, so the challenge of educating advocates and health professionals concerning them is on-going. In September 2010 the European Commission has provided us with a grant to further educate our national leaders on these guidelines so that they can better advocate for these services in their countries. Nonetheless current surveys and research indicate there is still much to do before implementation is carried out in many countries.

Friday, 26 March 2010 18:15–19:15

POSTER SESSION

Locally advanced and metastatic disease

449 Poster discussion

Assessment of quality of life (QoL) in contemporary phase III trials in advanced breast cancer (ABC): is it worthwhile?

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Background: QoL parameters are often used as endpoints in phase III trials of systemic therapy for ABC. However, the extent to which this has been done in recent studies, as well as the frequency and correlates of significant gains in QoL, have not been assessed systematically.

Methods: We used the medical subject headings "breast neoplasms" and "drug therapy" to search PubMed for the main paper reporting phase III trials on system icantineoplastic therapies published between January 1, 1998, and July 15, 2009 in 11 leading medical journals (*Ann Oncol*, *BCRT*, *Br J Cancer*, *Cancer*, *Clin Cancer Res*, *Eur J Cancer*, *JCO*, *JNCI*, *Lancet Oncol*, *Lancet* and *NEJM*). We also searched for companion papers reporting on QOL separately. We excluded studies on high-dose chemotherapy, papers reporting combined analyses of two or more trials, and companion studies on correlative biology or prognostic factors.

Results: The search yielded 86 trials that enrolled a total of 33,669 evaluable patients in 192 trial arms, 2 of these arms with placebo/best supportive care alone (maintenance trials). QoL was mentioned/reported in the main paper in 34 trials, reported in a companion paper in 1 (a total of 35/86=41%), and mentioned in the abstract of the main paper in 19/34 cases (56%). The most common instrument used for QoL assessmentwas QLQ C-30. There was no temporal trend for reporting of QoL in the two 6-year periods ($P = 0.89$). Although formal statistical comparisons were reported in 31/35 cases (89%), a significant difference was found in only 4/31 (13%) trials, in all cases favoring the experimental arm (3 chemotherapy, 1 hormone therapy trial). Given the small number of studies with a significant QoL finding, we did not assess correlates for gain in QoL.

Conclusion: QoL has been assessed formally in nearly 40% of contemporary phase III trials in ABC. Although statistical analyses were performed in the vast majorityof those cases, a significant gain in QoL has been rare. QoL is one ofthe key indicators of treatment benefit for regulatory agencies, but contemporary systemic therapies for ABC do not appear to affect QoL differentially.

450 Poster discussion

A Belgian multicenter phase II randomized trial in HER2-negative metastatic breast cancer evaluating consolidation antiangiogenic therapy with sunitinib after objective response to taxane-based chemotherapy

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Background: We tested the hypothesis that antiangiogenic treatment with sunitinib is able to delay breast cancer progression after tumor mass reduction (objective response) induced by taxane-based chemotherapy, and describe adverse events and dose reductions.

Patients and Methods: This is a dual-arm open-label randomized multicenter phase II clinical trial with 2:1 randomization evaluating the efficacy of sunitinib (study arm A) versus no therapy (control arm B, only for descriptive purposes) in patients with metastatic breast cancer after objective response (PR or CR) to taxane-based chemotherapy. Eligible patients had metastatic HER2-negative breast cancer and objective response after 10−20 weeks of first- or second line taxane-containing chemotherapy. The primary endpoint was the proportion of patients alive and without disease progression (PFS) at 5 months after study entry in arm A. If $\leqslant$18/36 patients are progression-free and alive at 5 months, sunitinib will be declared insufficiently active (beta 0.05); if $\geqslant$22 patients are progression-free and alive at 5 months, sunitinib will be declared active (alpha 0.05) and it will be recommended to continue the trial as a phase III design.

Results: 10/36 patients (28%) reached 5 months PFS in arm A and 4/19 in arm B (21%). Median PFS was 2.8 months in Arm A and 3.1 months in Arm B. The outcome in arm A was far below the predefined threshold for moving into phase III. Because 53% (17/32) required dose reduction at a starting dose of 50 mg (4w on/2w off), the protocol was amended for a starting dose of 37.5 mg continuously, which resulted in 44% (7/16) dose reduction requirement. Most measured toxicities (all grades) were more common in arm A. Grade III-IV toxicity occurred in 69% of patients in arm A (mainly fatigue 31%, musculoskeletal pain 11%, neutropenia and thrombopenia 8%) and 11% in arm B.

Conclusion: This study does not confirm the hypothesis that sunitinib can lead to a clinically relevant and statistically significant proportion of patients with PFS of $\geqslant$5 months after objective response to taxanes. Sunitinib induces adverse events requiring dose reductions in half of the patients. This exploratory study does not support a role of consolidation therapy with sunitinib in this clinical setting.

451 Poster discussion

Locoregional treatment of inflammatory breast cancer after neoadjuvant chemotherapy

S. Abrous-Anane[1], A. Savignoni[1], C. Daveau[1], J.Y. Pierga[1], F. Reyal[1], R. Dendale[1], Y. Kirova[1], A. Fourquet[1], M. Bollet[1]. [1]*Institut Curie, Oncology-Radiotherapy, Paris, France*

Background: The aim of this retrospective, mono-centric, study was to assess the benefit of breast surgery for inflammatory breast cancer (IBC).

Material and Methods: From January 1st 1985 and December 31st 1999; out of 13180 patients diagnosed at the Institut Curie with non metastatic breast cancer, 280 (2%) were treated with curative intent for IBC with primary chemotherapy followed by either exclusive radiotherapy (118 patients, 51%) or surgery with or without radiotherapy (114 patients, 49%). Median follow-up of 11 years.

Results: The two groups were comparable apart from a fewer rate of tumors smaller than 70 mm (43% *vs* 33%, $p = 0.003$), a higher rate of clinical stage N2 (15% *vs* 5%, $p = 0.04$) and fewer histopathologic grade 3 tumors (46% *vs* 61%, $p < 0.05$) in the no-surgery group. The addition of surgery was associated with a significant improvement in locoregional disease control ($p = 0.04$). At 5 years locoregional free interval was 79% in the surgery group *vs* 66% in the exclusive radiotherapy group and at 10 years: 78% *vs* 59% respectively. In the univariate analysis, in addition to the absence of surgery ($p = 0.04$), other prognostic factors associated with higher locoregional recurrence rates were: high clinical nodal stage ($p = 0.009$), high histological nodal status ($p = 0.02$) and the