therapy although the development of tyrosine kinase growth factor inhibitors may lead to a requirement to measure EGFR or possibly vascular endothelial growth factor receptors (VEGFR).

Molecular signatures: The development of molecular techniques to classify breast tumours, may in the future become a necessary test as these become more advanced and further markers are discovered which may predict response of tumours to various agents.

Conclusion: Pathology reports should contain a number of mandatory facts about a tumour. These are tumour size, tumour type, tumour grade, axillary nodal status, lymphovascular invasion, presence or absence of an extensive in-situ component and the status of the resection margins. Other mandatory tests are oestrogen receptor status and HER-2 status. Many laboratories would also include progesterone receptor status in this list.

382 Invited

The tumour board: how to prepare it properly

A. Awada[1], G. Tomasello[1]. [1]*Jules Bordet Institute, Medical Oncology Clinic, Brussels, Belgium*

Tumor board is a treatment planning approach in which experts in different specialties (oncologists, radiologists, pathologists, surgeons, radiation oncologists, geneticists and psychologists) review and discuss the medical condition and treatment options of a breast cancer (BC) patient (pt).

A multidisciplinary (MD) approach tailored to the stage of disease, estimation of risk of recurrence and mortality and assessment of the benefits and toxicities of adjuvant therapies can deliver the best possible overall care to BC pts. There is evidence that MD care for BC pts has the potential to reduce mortality, improve quality of life and reduce health care costs. MD meetings have been widely recommended as the preferred approach to managing BC in the USA and Europe.

They must be held at least weekly and the following should be discussed:

– cases in which the diagnosis is as yet uncertain;
– cases in whom the diagnosis of cancer is confirmed and who may be considered for primary medical therapy;
– all cases following surgery on receipt of the histopathology for discussion of further care;
– cases in follow-up who recently have undergone diagnostic investigations for possible symptoms of recurrent or advanced disease

For this purpose, an appropriate report of a BC case should be presented collegially in electronic format and include: a complete medical history, a clear histological description including tumor's main characteristics as well as all pathological biomarkers and gene expression profile if available, estimation of recurrence risk according to online prediction models, such as the validated "Adjuvant! Online" tool, instrumental exams and a genetic counseling when requested.

This appointment represents a unique educational opportunity for all the attending physicians and a crucial moment of professional growth since it allows interflow of opinion, clarification of surgical and pathologic details and information from a collective expert opinion on individual case management.

The complexity of modern BC treatment and abundance of new clinical and basic research studies make it difficult for one specialty to stay abreast of the rapid evolving field of BC management.

Since BC management continues to evolve rapidly a MD approach is required to implement a comprehensive treatment plan for both the prevention and treatment of BC. It is in this setting that the ultimate goal of reducing the incidence, morbidity, and mortality of this disease is best achieved.

383 Invited

The breast unit database: mission impossible?

A. Ponti[1], M. Tomatis[1]. [1]*CPO-Piemonte, Unit of Cancer Epidemiology, Torino, Italy*

The final statement of the first Joint Breast Cancer Conference [1] states that quality assurance programmes should be mandatory for all clinical Units treating breast cancer. According to the final report of the European Society of Breast Cancer Specialists (EUSOMA) workshop in Leuven, Belgium, in May 1999 on "Breast Units: future standards and minimum requirements" [2], performance figures on precisely defined quality objectives and outcome measures must be produced by Breast Units yearly. Following these lines, EUSOMA is conducting a voluntary accreditation programme for breast units [3] in which audit is among the main criteria adopted for granting accreditation. Within this programme some 25 European breast units, using eight different databases, have been visited so far.

Audit requirements for breast units aiming at achieve EUSOMA Initial Accreditation include:

– perform audit regularly. Audit procedures, including audit meetings, must be described in detail and found satisfactory;
– employ a database which is rated as satisfactory by EUSOMA. To be considered satisfactory a database must be able to reliably transfer information on cancer detection, diagnosis, primary operative and adjuvant therapies, tumour pathology and biology, and follow up to the EUSOMA Network database.

In order to achieve and mantain Full Accreditation, breast units must transfer their data, including follow up, to the EUSOMA database for a minimum period of five years and the results of their quality objectives and outcome measures, calculated yearly, must be satisfactory.

References

[1] Cataliotti L, Costa A, Daly PA, et al. Florence Statement on Breast Cancer, 1998. Forging the way ahead for more research on and better care in breast cancer. *Eur J Cancer* 1999;35:14−5.
[2] Blamey R, Blichert-Toft M, Cataliotti L, et al. The requirements of a specialist breast unit. *Eur J Cancer* 2000;36:2288−93.
[3] Blamey R, Cataliotti L. EUSOMA Accreditation of Breast Units. *Eur J Cancer* 2006;42:1331−7.

384 Proffered Paper Oral

Actions of the Polish Forum of the European Brest Cancer Coalition EUROPA DONNA for propagating in Poland the idea of breast units

D. Czudowska[1]. [1]*Osrodek Diagnostyki Onkologicznej, out-patient clinic, Legnica, Poland*

Poland has participated in the actions of the European Breast Cancer Coalition EUROPA DONNA since the beginning of its operations, i.e. since 1993. Representatives of the Polish Forum of the European Breast Cancer Coalition EUROPA DONNA [EBCC ED] take part in all conferences concerning breast cancer organized or co-organized by EBCC ED. We keep trace of all information that may help to improve the fate of women at risk or suffering from breast cancer. What we value in particular is all the actions of the Management of EBCC ED in the European Parliament. We have great hopes for the creation of Breast Units in Poland. We have been propagating this idea in Poland since 2005. Government and self-government administration politicians participate in these conferences. We have also presented this topic at medical conferences.

The aim of this presentation is to show the calendar of our actions, suggestions for administrative solutions under Polish conditions and the role of the Polish Forum of EUROPA DONNA in propagating knowledge concerning the aim and organizational and financial principles of Breast Units. It should be stressed that it is a non-governmental organization – the Polish Forum EUROPA DONNA – to be the first in Poland to inform doctors, politicians and society about actions of an international research centre EUSOMA and European Parliament for breast cancer prevention and limiting mortality and disability rate due to breast cancer among women in the whole of Europe.

Friday, 18 April 2008 16:00–17:20

CLINICAL SCIENCE SYMPOSIUM

Triple negative breast cancer, one or several diseases?

385 Invited

Designing clinical trials for triple negative breast cancer: evidence and issues

A. Di Leo[1], E. Zafarana[1], M. De Stefanis[1], L. Biganzoli[1]. [1]*Hospital of Prato, "Sandro Pitigliani" medical oncology unit Istituto Toscano Tumori, Prato, Italy*

The basal-like breast cancer sub-type represents a new treatment challenge for clinicians. This presentation will focus on some issues that are of critical importance for designing basal-like breast cancer trials. The following controversial issues related to the design of trials for basal-like tumors will be reviewed and discussed: a) study population; b) treatment duration; c) treatment targets; d) tumor biology progression.

Key-messages: Basal-like tumors do not entirely overlap with the triple-negative (ER, PgR, and HER-2 negative) cohort of breast cancer. The selection of basal-like patients for a clinical trial seems to be feasible according to the expression of molecular markers correlated to the basal-like phenotype and evaluable by immunohistochemistry. It is still unclear what might be the most appropriate adjuvant treatment duration for basal-like tumors. An extended clinical follow-up of patients carrying a basal-like

phenotype might contribute to define this issue. Several potential treatment targets have been identified. Among those, EGF-R overexpression, DNA repair deficit, hyperproliferation, and angiogenesis, seem to be the most promising. Tumor biology may change during the course of advanced disease. Ideally, a biological characterization of each tumor should be performed immediately before activating a new line of treatment.

386 Invited

The molecular pathology of ER, PR HER2 negative breast cancers: finding novel biomarkers

J.S. Reis-Filho[1], A. Tutt[2]. [1]*Institute of Cancer Research, The Breakthrough Breast Cancer Research Centre, London, United Kingdom;* [2]*Kings College London Guy's Hospital, Breakthrough Breast Cancer Unit, London, United Kingdom*

Breast cancer is a heterogeneous disease that encompasses several distinct entities with remarkably different biological characteristics and clinical behaviour. Currently, breast cancer patients are managed according to algorithms based on a constellation of clinical and histopathological parameters in conjunction with assessment of hormone receptors (oestrogen and progesterone receptor) and HER2 status. Although effective tailored therapies have been developed for patients with hormone receptor positive or HER2 positive disease, chemotherapy is the only modality of systemic therapy for patients with breast cancers lacking the expression of these markers (triple negative cancers, TN). Recent microarray expression profiling analyses have demonstrated that breast cancers can be systematically characterised into biologically and clinically meaningful groups. These studies have led to the re-discovery of basal-like breast cancers, which preferentially show a TN phenotype. TN and basal-like cancers preferentially affect young and African-American women, are of high histological grade and have a more aggressive clinical behaviour. A significant overlap between the biological and clinical characteristics of sporadic TN and basal-like cancers has been demonstrated. TN and basal-like cancers are remarkably similar to tumours arising in BRCA1 mutation carriers. We have shown that a substantial proportion of sporadic TN tumours have a dysfunctional BRCA1 pathway and that inactivation of Brca1 and p53 in an engineered mouse model leads to the development of tumours whose morphological features recapitulate those of sporadic TN cancers. It should be noted, however, that TN and basal-like cancers are heterogeneous groups of tumours at the histopathological, phenotypic and genetic levels. Novel approaches for unravelling the complexity of these cancers and for the identification of biomarkers and therapeutic targets in TN and basal-like cancers through a combination of high throughput techniques, including microarray-based comparative genomic hybridisation, expression arrays, RNAi screening and tissue microarrays, will be discussed.

387 Invited

How should we best target the biology of ER PR HER2 negative breast cancer?

A.N.J. Tutt[1], J.S. Reis-Filho[2]. [1]*Breakthrough Breast Cancer Research Unit, Kings College London School of Medicine, London, United Kingdom;* [2]*Breakthrough Breast Cancer Research Centre, Institute of Cancer Research, London, United Kingdom*

Breast cancer comprises a diverse collection of diseases with distinct biological features and clinical behaviour. Both pre-clinical and clinical research now commonly targets specific sub-groups of breast cancer with the aim of identifying biological markers or genetic phenotypes, which reveal specific therapeutic targets or indicators of prognosis for each of these groups. Examples include the targeting of oestrogen receptor (ER) driven breast cancers with endocrine therapies, and sub-group of breast cancers driven by the receptor tyrosine kinase ErbB2 (HER2) by targeting this receptor using the monoclonal antibody (e.g. trastuzumab) or the small molecule inhibitor lapatinib. In each case, extensive preclinical research followed by large, multi-centre, randomised controlled trials has led to improved disease free survival and overall survival. These novel targeted agents are, however, of no benefit to a substantial number of women whose breast cancers lack ER, PR and HER2 receptors; the so called "triple negative" sub-group. In the previous paper a dissection of the molecular pathology of and relationships between "triple negative" and "basal-like" breast cancers reveals some recurrent genetic, epigenetic and gene expression changes associated with these sub-types. These are now being used to inform early phase clinical trials in "triple negative" and "basal-like" breast cancer subtypes. Initial targets considered worthy of investigation in "triple negative" and "basal-like" cancers include the following: The EGF receptor, which is expressed in more than 50% and amplified in up to 5% of these cancers; c-Kit, which is overexpressed in the majority of these tumours; and VEGF, given the high vascularity noted in some "basal-like" cancers. Src inhibitors have also been shown to have preclinical efficacy in cell lines with a triple negative phenotype. Furthermore, our group has explored the concept of targeting abnormal DNA repair associated with abnormal BRCA1 function. Given that cancer cells with a dysfunctional BRCA1 pathway have been shown to display an exquisite sensitivity to DNA cross-linking agents and PARP inhibitors, clinical trials are now testing whether these agents can be used for the management of patients with hereditary BRCA cancers and sporadic carcinomas with "triple negative" and "basal-like" phenotypes. The rationale for, and nature of, clinical trials examining targeted approaches will be discussed in the context of the molecular pathology data outlined in the preceding paper.

Friday, 18 April 2008 16:00–17:30

CLINICAL SCIENCE SYMPOSIUM

Delivering optimal breast cancer care in all circumstances

388 Invited

Organisation of breast units

A. Costa[1]. [1]*Clinica del lavoro Fondazione Salvatore Maugeri, Breast Unit, Pavia, Italy*

In October 1998 the First European Breast Cancer Conference took place, jointly organised by the EORTC Breast Cancer Cooperative Group, EUSOMA and Europa Donna.

Delegates agreed a consensus on research, genetic predisposition, psycho-social status, treatment and notably quality of care. "The Florence statement" demanding that all women have access to multidisciplinary breast clinics based on populations of around 250,000; also it called for mandatory quality assurance programmes for breast services. With the intention of assuring a high quality specialist service Europe-wide, a working party was established to consider what should comprise a specialist service. These resulted in the publication of the "Requirements of a Specialist Breast Unit" which describe the standards required for forming high quality Breast Unit across Europe (European Journal of Cancer 2000; 36: 2288–2293).

These guidelines have been generally well received, have been influential in the introduction of the multidisciplinary working teams in several Countries (see www.eusoma.org and www.senonetwork.org) and considerable attention was drawn to the approval given to this approach by the European Parliament (2004).

The key requirements to establish a proper Breast Unit are a relevant critical mass (at least 150 new cases per year and at least 5,000 mammographies), development of individual skills (at least 50 operations per surgeon and 500 mammographies per radiologist), dedicated specialist from all the relevant specialties (pathology, medical oncology, nursing, etc.).

389 Invited

The Breast Health Global Initiative: a catalyst for cancer control in limited resource countries

B.O. Anderson[1], C.H. Yip[2], R.A. Smith[3], R. Shyyan[4], S.F. Sener[5], A.E. Eniu[6], R.W. Carlson[7], E. Azavedo[8], J.B. Harford[9]. [1]*Fred Hutchinson Cancer Research Center, Division of Public Health Sciences, Seattle WA, USA;* [2]*University Malaya Medical Centre, Department of Surgery, Kuala Lumpur, Malaysia;* [3]*American Cancer Society, Cancer Control Science Department, Atlanta GA, USA;* [4]*Lviv Regional Cancer Center, Department of Surgery, Lviv, Ukraine;* [5]*Northwestern University, Department of Surgery, Evanston Illinois, USA;* [6]*Cancer Institute I. Chirocuta, Department of Breast Tumors, Cluj-Napoca, Romania;* [7]*Stanford University, Division of Medical Oncology, Stanford CA, USA;* [8]*Karolinska University Hospital, Radiology, Stockholm, Sweden;* [9]*National Cancer Institute, Office of International Affairs, Bethesda MD, USA*

Background: Breast cancer is the most common cancer among women around the globe, and is the most likely reason a woman will die of cancer. Of the 411,000 breast cancer deaths around the world in 2002, 221,000 (54%) occurred in low- and middle-income countries (LMCs). Incidence rates of breast cancer are increasing in most countries, with increases that are greatest where rates were previously low. Guidelines for breast health care (early detection, diagnosis and treatment) that were developed in high resource countries cannot be directly applied in LMCs, because these guidelines do not consider real world resource constraints, nor do they prioritize which resources are most critically needed in specific countries for care to be most effectively provided.