

**Methods:** The review of the literature for this study covered the period 1950–2011. Studies were included if they concerned patient education for breast cancer patients with Internet or interactive computer programs. The database searches for the systematic review were based on the Cochrane Database, CINAHL, MEDLINE, PsycINFO, Eric, Science Direct, Social Science Citation Index and Educational Research Complete electronic databases for abstracts using the keywords 'breast neoplasm or cancer or tumour or carcinoma' and 'patient education or counselling or guidance or support or instruction or teaching'. For articles related to Internet we used the keywords 'web or internet or www or computer or world wide web'.

**Results:** We identified 16 articles involving 2,502 participants. The design was randomized controlled trial in ten papers, in two papers clinical trial and in four quasi-experimental. Eight of the studies were randomized to experimental and control groups. The interventions used were described as interactive computer or multimedia programs and use of the Internet. The methodological solutions of the studies varied. The effects of the studies were diverse except for knowledge related issues.

**Conclusions:** The results of those studies suggest a positive relationship between the Internet or computer-based patient education program use and the knowledge level of patients with breast cancer but a diverse relationship between patient's participation and other outcome measures.

39

Poster

### Evaluation of the Program BRCAPRO in a Breast Cancer Centre

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**Background:** Genetic testing for the breast and ovarian cancer genes BRCA1 and BRCA2 is an important area of healthcare with significant implications for the clinical management of carriers. However, genetic testing is expensive and should be targeted at those individuals most likely to carry pathogenic mutations. Several algorithms that calculate the likelihood of carrying a BRCA1 or a BRCA2 mutation are currently used in clinical practice to identify such individuals. The aim of this study was to evaluate the performance of BRCAPRO (model) accordingly to NICE criteria, versus the common clinical criteria for selection of patients for genetic study, in a cohort of patients seen in a clinical genetics clinic. The model was evaluated for calibration, discrimination and accuracy of the predictions.

**Methods:** A retrospective search of family history records for the period September 2009–September 2011 was performed in order to identify individuals who had undergone genetic testing, obtaining two categories: BRCA patients carrying known pathogenic mutations and non-BRCA carriers. Risk calculations were performed on index cases by applying BRCAPRO model. Then, results were analyzed assuming that selection for genetic testing of BRCA1/BRCA2 was based on BRCAPRO. According to NICE (clinical guidelines 14 and 41) individuals belonging to families with a high risk of carrying genetic mutation  $\geq 20\%$  should be tested.

**Results:** 124 tests were performed, 16 index cases and 21 carriers were identified for BRCA1/BRCA2 mutations. Using the BRCAPRO on the 16 index cases, 37.5% of cases presented a probability 20% of being a carrier of a pathogenic mutation.

**Conclusions:** In the studied population, according to NICE criteria, BRCAPRO did not have a good performance in the selection of patients to genetic test when used alone, although should be considered when used in conjunction with common clinical criteria.

Wednesday, 21 March 2012

12:00–13:15

### POSTER SESSION

## Breast Cancer in Young and Elderly

40

Poster discussion

### Patient Self-reported Outcome for Long-term Follow up of Early Breast Cancer Trials

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**Background:** Long term follow up (LTFU) of early breast cancer trials is considered highly important as treatment effects might increase, maintain or decrease by time and have to be put into relation with late or chronic toxicities. However, in countries without access to national cancer registries, collection of LTFU is very often an unaccomplishable task due to logistic and financial burden for the study sites and sponsors. Therefore, we developed a concept on patient self-reported outcome for long-term follow up of early breast cancer trials within GBG.

**Methods:** Study participants were invited by the site investigator to join a LTFU registry. They consent that name, address, and the unique study identifier are being collected by a trustee (based at KKS University of Marburg with a data-base being strictly not assessable by GBG) and to receive biannual health status questionnaires, allowed to be filled in by a third person in case of death. GBG is informed by the data trustee that the trial participant joins the registry. The registry has been approved by the ethics committee and competent authorities. Triggered by GBG, the trustee sends out to the participant a form asking for date & site of relapse, second malignancies, and date of death, to be sent to GBG using only the unique study identifier as pseudonym. For address changes or withdrawal of consent another form can be returned to the trustee. GBG links updated LTFU data with the original study data base and informs the site. During the current test phase, follow up is collected conventionally by the site in parallel.

**Results:** Since 06/2009, 803 study participants have consented for the LTFU registry. The first questionnaire was sent in 08/2010 to 410 participants. After 3 months 84%, and after a reminder letter, 97% replied, with only 12 participants not replying. 10 recurrences, 4 secondary malignancies, and 1 death were reported (including 2 events not being reported in parallel by the site). Currently the 2<sup>nd</sup> round (sent to 800 participants) is running with feed-back by over 80% after 2 months only.

**Conclusions:** This concept of patient self-reported LTFU is feasible resulting in a high completeness of follow up with a minimum logistic and financial burden for investigators and sponsors. The quality of the self-reported health status seems promising.

41

Poster discussion

### Quality of Life Assessment Through the EORTC Questionnaires, in Elderly Women with Breast Cancer Treated with Radiotherapy – A Prospective Study

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**Background:** There is a need of studies on the effect on quality of life (QL) of the disease and treatment in breast cancer elderly patients. The aims of this work are (1) to evaluate prospectively QL in a sample of elderly patients with stages I–III breast cancer who started radiotherapy treatment and (2) to compare their QL with that of a sample of younger patients.

**Materials and Methods:** 167 patients,  $\geq 65$  years of Age, treated with local/ocoregional RT with/without hormonotherapy, were invited to participate in the study. They completed the EORTC QL questionnaires QLQ-C30 and QLQ-BR23, and the Interview for Deterioration in Daily Living Activities in Dementia (IDDD) daily activities scale 4 times: (1): before RT, (2): in the last week of treatment, (3): 6 weeks and (4): 2–3 years after finalizing treatment.

Fifty patients ages 40–64 years with the same disease stage and treatment modality had previously completed the QL questionnaires.

**Results:** 167, 154 and 143 patients had completed the 3 first questionnaires, respectively, and 58 the fourth. Median age was 72.9. 70.5% had limiting comorbidity. Karnofsky and IDDD means in the four measurements ranged between 90–92.7 and 33.8–34.2 respectively. No rest between the RT sessions or a dosage reduction was needed. All patients received the whole programmed sessions. 83.2% had homotherapy.

QL scores were high and stable (>75/100 points) in most areas. There were moderate limitations (>30/100) in Global QL and sexual areas in the four measurements, and future worries in the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup>. Light limitations (20–30/100) appeared in pain, fatigue and breast symptoms in the 2<sup>nd</sup> measurement, future worries in the 1<sup>st</sup>, and in insomnia in the 4<sup>th</sup> assessments.

The areas of physical functioning, role, pain, fatigue, breast symptoms, and global QL offered moderate decreases (10–20) in the 2<sup>nd</sup> assessment in relation to 1<sup>st</sup> and 3<sup>rd</sup>; systemic therapy side effects were worse in the 2<sup>nd</sup> and 3<sup>rd</sup> compared to the 1<sup>st</sup> assessment.

When comparing the four assessments results showed a similar pattern, and there were almost no differences among the assessment 4<sup>th</sup> with the 1<sup>st</sup> and 3<sup>rd</sup>. systemic therapy side effects were worse in the 4<sup>th</sup> assessment compared to the three first measurements, and future worries better.

Breast-conservation and sentinel-node patients presented higher scores in body image, compared to patients with mastectomy and lymphadenectomy.

Patients with local RT (without regional irradiation) have better physical functioning and less fatigue. Those with no limiting comorbidity had better QL scores in several functional and symptom areas.

QL differences among age based samples appeared in few areas, were small (<15 points), and favoured younger patients.

**Conclusions:** QL and clinical data indicate Radiotherapy is well tolerated in this group of patients and its impact on QL is small. Age should not be the main factor when deciding on the treatment to administer.

42

Poster

#### The Risk of Breast Cancer Among Women Who Start Smoking as Teenagers

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**Background:** There are several causes of breast cancer in the world today. Recent research has proven that tobacco use also causes breast cancer.

**Goals:** To examine the effect of smoking on breast cancer risk in a large population-based cohort of women, many of whom started smoking as teenagers.

**Methods:** We followed 102,098 women, ages 30 to 50 years, completing a mailed questionnaire at recruitment to the Nigerian-Kenyan Cohort Study in 1995/1996, through December 2004. We used Cox proportional hazard regression models to estimate relative risk (RR) of breast cancer associated with different measures of smoking initiation, duration, and intensity adjusting for confounding variables. We conducted analyses on the entire study population, among women who had smoked for at least 20 years, among non drinkers, and separately for each country.

**Results:** Altogether, 1,240 women were diagnosed with incident, invasive breast cancer. Compared with never smokers, women who smoked for at least 20 years and who smoked 10 cigarettes or more daily had a RR of 1.34 (95% CI, 1.06–1.70). Likewise, those who initiated smoking prior to their first birth (1.27, 1.00–1.62), before menarche (1.39, 1.03–1.87), or before age 15 (1.48, 1.03–2.13) had an increased risk. In contrast, women who had smoked for at least 20 years, but started after their first birth, did not experience an increased breast cancer risk. The increased RR associated with smoking was observed among nondrinkers of alcohol, women with and without a family history of breast cancer, pre-menopausal and post-menopausal women, and in both countries.

**Conclusion:** Our results support the notion that women who start smoking as teenagers and continue to smoke for at least 20 years may increase their breast cancer risk.

43

Poster

#### Effect of Nodal Status in Triple Negative Breast Cancer – Survival Outcomes From a Tertiary Center

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**Background:** To evaluate the impact of nodal status and other prognostic factors on the survival of patients with Triple Negative Breast Cancer (TNBC).

**Materials and Methods:** Clinicopathological data were retrieved from 1990 until 2001, by retrospective chart review, for patients presenting with breast to the American University of Beirut Medical Center. Out of 1455 patients, 524 had complete histological data, of which 138 (26.3%) were diagnosed with TNBC. Median follow up time was 3.34 years (Range 0.55–10 years). In order to evaluate the prognostic effect and estimate the hazard ratio (HR) and 95% confidence interval (CI) of different prognostic factors, we used the Kaplan–Meier and cox proportional hazard models.

**Results:** Median age of presentation was 50.91 (range 26–81). Among patients with TNBC; 1, 5 and 10 year survival for patients with negative lymph node status (N0) was 98.3%, 91.1% and 74.5% respectively, compared to 98.5%, 70.3 % and 42.2% for patients who had a positive nodal status (N1–N3) (p = 0.044). The presence of an increasing number of positive lymph nodes, from N1 to N3, did not have a prognostic effect on overall survival (p = 0.773). On multivariate analysis, higher Stage (H.R 3.01, 95% C.I (1.13–8.4), P = 0.027) and Conservative type of surgery (HR 0.195, 95% C.I (0.04–0.85), p = 0.03) had a significant effect on the survival of TNBC patients.

**Conclusion:** Lymph node positive disease predicts poorer survival in TNBC but the number of positive lymph nodes did not. Tumor stage did affect outcome. Conservative surgery did have a positive effect on survival when compared to mastectomy.

44

Poster

#### Older Patients' Preferences for Surgical Treatment in Early Breast Cancer: a Systematic Review

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**Background:** In surgical treatment decision-making, women's preferences are highly relevant. Little is known about older breast cancer patients' preferences for type of surgery and the factors they consider important in their treatment choice. A systematic review was performed to describe these preferences for surgical treatment options.

**Material and Methods:** PubMed and EMBASE searches were conducted to identify articles published between January 1990 and June 2011. Articles were included if (1) preferences were elicited for type of surgery (breast conserving surgery versus mastectomy for early stage breast cancer) (2) all ages were included (3) preferences were elicited within two years following diagnosis or surgery, and (4) articles were published in English.

**Results:** Out of 2793 articles, 240 abstracts were screened and 40 full text studies were selected. Thirteen studies met the inclusion criteria. These studies identified a variety of factors that might affect women's choice for either breast conserving surgery or mastectomy. Most of these studies focused on patients younger than 65 years of age and none assessed the influence of age in the choice of surgical treatment options. Two studies that did not formally meet the inclusion criteria noted that older women have distinct concerns as compared with younger women, including concerns about recurrence, body image, role maintenance and transportation difficulties.

**Conclusions:** Our results show that knowledge about surgical treatment preferences of older patients with early stage breast cancer is limited. None of the retrieved studies focused on older women, thereby leaving a large and growing segment of breast cancer patients understudied with respect to treatment preferences. More research is needed to determine whether and how preferences of older patients differ from preferences of younger patients. The FOCUS on Choice study, initiated at the Leiden University Medical Center, will hopefully provide answers within three years.