a standard to attain the best results. With a mean follow-up time of 12.3 years the 214 patients in this study treated with BCT according to the DBCG protocol exhibited low levels of moderate to severe fibrosis and high levels of satisfaction with the cosmetic outcome.

5193 POSTER

Invasive Ductal Breast Cancer. Correlation Between Tumour Size in Physical Examination, Mammography, Magnetic Resonance and Pathological Anatomy

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Background: The most frequent indication of magnetic resonance in breast cancer is the evaluation of tumoral extension. Several studies suggest that mammography and ultrasound underestimate tumour size. With our study, we try to analyze the correlation between the tumour size of invasive ductal carcinomas in physical examination, mammography, magnetic resonance and pathological anatomy.
Material and Methods: We review the 290 magnetic resonance made in our Radiology Department from 1st January 2009 to 1st September 2010. 56 of them were applied as complementary study before surgery of suspected lesions of breast cancer. We excluded lobular carcinoma and in situ ductal carcinoma. We made an analysis of paired test, and then a hypothesis test for equal sample testing, supported by an analysis of power curves. The paired test analysed were physical examination (PE) − mammography − magnetic resonance (MR) − pathological anatomy (PA).
Results: A 100% of the patients were women, with an average of age of 54.1 years old. A 42.8% of them were premenopausal. The averages of tumour size were: 18.3 mm in PE; 18.8 mm in mammography; 25.3 mm in MR and 24.8 mm in PA. The correlation between the tumour size in PE and PA is not statistically significant ($p = 0.05$, 95% CI 11.07; 1.93), and also between the mammography and the PA ($p = 0.05$, 95% CI 10.69; 1.47). The correlation between tumour size in mammography and MR is statistically significant ($p = 0.05$, 95% CI −9.83; −3.26), and also between MR and PA ($p = 0.05$, 95% CI −3.31; 4.25). We analysed the relation between clinical tumour size by MR and pathological size, and in a 25% of the cases, the clinical and the pathological stage were different. The pathological one was more advance in a 57.1% of them.
Conclusion: In our series, the mammography underestimate the tumour size, with no correlation with the pathological tumour size. However, there is a good correlation between the tumour size in magnetic resonance and the pathological size. The MR is the most reliable imaging technique to optimize the surgical and oncological treatment in patients with breast cancer.

5194 POSTER

Is the 21-gene Breast Cancer Test (Oncotype DX®) Good Value for Money?

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Background: The Oncotype DX® Breast Cancer Test (ODX) is a validated 21-gene assay that predicts 10 year risk of recurrence and the likelihood of benefit from adjuvant chemotherapy in early-stage, node-negative ER+ breast cancer. The cost-effectiveness of using ODX has been published in several countries but to date, there hasn't been any review of these studies.
Materials and Methods: The electronic database Pubmed and a selection of congress databases were searched using combinations of search terms designed to identify publications describing cost-effectiveness analyses of ODX in early stage breast cancer patients. Searches were limited to those published in the English language between January 2001 and April 2011. All records were screened for inclusion in the review.
Results: Five published health economics analyses and 1 abstract were identified. The studies were carried out in several countries (US (2), Canada, Japan, Israel and Hungary) and have used a Markov modelling approach based on data from a large multicentre trial (e.g. NSABP B-20) to make estimates of long-term outcomes, and assess the cost-effectiveness of using the ODX recurrence score in patients classified as having a high or low risk of distant recurrence using other methods of assessment. All studies were carried out in the perspective of the healthcare payer, and therefore did not consider broader costs to the patients and the society. Study comparators, costs, characteristics of the population receiving the test and impact of using the ODX results on treatment decisions were adapted to each individual country clinical practice explaining the large range of cost-effectiveness results from these studies. In the US, using ODX was shown to be cost-saving when in Canada, it was likely to be cost-effective (incremental cost-effectiveness ratio of $64,063 per QALY gained). Consistently across all five studies, use of ODX was projected to improve survival (where reported), quality-adjusted life expectancy and to reduce chemotherapy costs versus comparators.
Conclusions: Despite local adaption of the cost-effectiveness models, literature to date is consistently supporting the cost-effectiveness of using ODX in the various settings. Further analyses should be carried on to assess the budget impact of funding ODX and to include a broader perspective of the costs.

5195 POSTER

Persistent Pain After Targeted Intraoperative Radiotherapy (TARGIT) or External Breast Radiotherapy for Breast Cancer − a Randomized Trial

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Background: Persistent pain following breast cancer treatment affects between 25−60% of patients depending on surgical and adjuvant treatment [1]. The pathophysiology of persistent pain is complex and includes several pre-, intra and postoperative risk factors for the development of persistent pain after breast cancer treatment (PPBCT). Radiotherapy has been shown to be a risk factor [2]. It raises the question whether intraoperative radiation therapy (IORT), with its smaller radiation field may reduce the development of PPBCT. IORT has been compared to external breast radiation therapy (EBRT) in terms of recurrence and survival, in the randomized non-inferiority study, TARGIT-A trial. Using data from this trial, the aim of this study was to compare these two treatments with regard to development of PPBCT.
Materials and Methods: A total of 281 patients enrolled between 2007 and 2010 in the TARGIT-A trial (NCT00983684) from the Copenhagen University Hospitals were identified in the local TARGIT database. Exclusion criteria: patients receiving axillary lymph clearence, patients with bilateral disease, recurrence, other cancer, and patients not treated according to protocol. A total of 245 questionnaires were sent out. The response rate was 98%. Two patients were excluded due to insufficient answers in the questionnaire, leaving 239 for final analysis. A detailed questionnaire from a large nationwide study on PPBCT [1] was used.
Results: Disease and demographic characteristics in the two groups were similar. Pain prevalence were 33.6% in the EBRT group and 24.6% in the IORT group, which did not reach statistical significance ($p = 0.124$). Pain intensity was similar, most patients experiencing light pain (NRS $\leqslant 3$). Patients in the IORT group reported more pain in other places outside the treatment area (40.6% in the IORT group and 27.7% in the EBRT group $p = 0.045$).
Conclusion: This first study to compare IORT and EBRT in terms of PPBCT, shows that treatment with IORT does not increase the risk of PPBCT, and provides support for the safety of IORT in terms of PPBCT. Any potential positive effect of IORT on PPBCT will require a larger study.

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5196 POSTER

Relevance of Breast Cancer Subtypes for Magnetic Resonance Imaging (MRI) Response Monitoring Neoadjuvant Chemotherapy (NAC)

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Background: Recently some authors have reported that changes in magnetic resonance imaging (MRI) during neoadjuvant chemotherapy (NAC)

are predictive of pathology outcome in triple-negative and HER2-positive breast cancer [1]. The purpose of our study was to evaluate the relevance of breast cancer subtype on MRI response during NAC in our centre.
Patients and Methods: MRI examinations were performed in 27 women before and during NAC. MRI interpretation included lesion morphology at baseline, changes in morphology, size, and initial and late enhancement by contrast uptake. Tumours were divided into three subtypes by using immunohistochemistry: triple negative (TN), human epidermal growth factor receptor 2 (HER2) positive, and estrogen receptor (ER) positive/HER2 negative. Pathological complete response (pCR) was defined as complete absence of residual tumour cells at microscopy.
Results: The tumour subtype in most patients was ER positive/HER2 negative (15/28) followed by HER2 positive (9/28) and triple negative (3/28). No residual tumour at pathology was present in 66% of HER2 positive tumours, 66% of triple-negative tumours, and 40% of ER-positive/HER2-negative tumours. MRI examinations were associated with pathological responses in all cases TN breast tumours and 83% (5/6) HER2 tumours, whereas 27% of patients with ER positive/HER2 negative tumours with MRI response were not associated with pathological response.
Conclusion: Our results support the evidence that MRI during NAC to monitor response is effective in triple-negative or HER2-positive disease but is inaccurate in ER-positive/HER2-negative breast cancer.

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5197 POSTER

Prognostic Value of Age at Diagnosis is Prognostic Factors in Young Women With Breast Cancer in Korea

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Background: Previous studies show that Breast cancer in young women is poor outcomes. But Criteria in young age differed between studies and it is unclear. In this study, we define reasonable young-age criteria in patients with breast cancer.
Materials and Methods: We analyzed data on 795 patients with breast cancer who treated at Samsung medical center between 1997 and 2002 retrospectively. Patients have Breast conserving surgery followed by radiation therapy. Patients age was between 23 years and 80 years (median age was 49 years) and patients ware only early breast cancer. Our cut-off for defining young age was 35 years, 40 years and 45 years old, we were analyzed according to each other. Kaplan–Meier curves were generated to assess disease free survival rate, local recurrence rate & distant metastasis rate.
Results: The median follow-up duration was 75 months. All patients' disease free survival (DFS) was 85.4%, local failure rate (LFR) was 6.7%, distant failure rate (DFR) was 9.6%. When cut-off for defining young age was 35 years, DFS was 77.8% vs 86.5% ($p = 0.013$), LFR was 14.4% vs 5.7% ($p = 0.001$), DFR was 13.5% vs 9% ($p = 0.115$). At 40 years, DFS was 80.7% vs 87.4% ($p = 0.009$), LFR was 10.7% vs 5.2% ($p = 0.004$), DFR was 11.6% vs 8.7% ($p = 0.186$). At 45 years, DFS was 84.1% vs 86.8% ($p = 0.239$), LFR was 9.9% vs 5.6% ($p = 0.001$), DFR 8.7% vs 10.5% ($p = 0.506$).
Conclusion: There was significant difference DFS and LFR at the cut-off criteria for defining young age was 35 years and 40 years. This suggests that age less than 40 years is a reasonable cut-off for defining young age-onset breast cancer in Korea.

5198 POSTER

The Impact of Obesity on the Prognosis of Operable Breast Cancer in Morrocan Women

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Background: Few studies found relation between body mass index (BMI) at diagnosis and outcomes in premenopausal women with operable breast cancer.
The purpose of this retrospective study was to determine the impact of high body mass index on the risk of breast cancer recurrence, disease free survival, overall survival and prognostic factors in premenopausal morrocan young patients $\leqslant$35 years of age at diagnosis.
Material and Methods: We identified 152 young patients $\leqslant$35 years old who had operable breast cancer between 2007–2009. Patients were divided in three Body mass index groups: (a) $\leqslant$24.9: normal or underweight group, (b) 25−29.9: overweight group, and (c) >30: obese group. Age at diagnosis, tumour size, nodal status, vessel invasion, estrogen receptor status, and tumour grade were analysed. Univariate analyses were used to compare the associations of prognostics factors according to body mass index categories. All statistical calculations were performed using SPSS version 10. Kaplan–Meier survival analysis with log-rank test was used to evaluate survival in the three groups.
Results: The median of BMI in this study was 25.9 [16–38.7]. The three groups (a), (b,) (c) comprised respectively 72 (47.4%), 48 (31.6%) and 32 patients (21.1%). There were no statistical differences in grade of malignancy, nodal involvement, vessel invasion and tumour size in the three groups. We found more negative status of hormone receptors in the obese patients group than in the normal weight group ($p = 0.05$).
The overall survival at 4 years was less in obese patients and overweight patients groups (74% and 84%) compared with normal/underweight group (96%) but these data were statistically not significant. ($p = 0.69$).
Patients with normal body mass index had longer local and metastatic free survival than those with overweight or obese body mass index, but there was no statistical significance (respectively $p = 0.7$; $p = 0.4$).
Conclusion: Overall survival and disease free survival are less in obese and overweight premenopausal women with operable breast cancer, but our calculations shown no statistical significance. Prospective clinical trials should be conducted in these categories of patients to support these results.

5199 POSTER

Phase II Study of Combined Modality Treatment in Patients With Triple Negative Breast Cancer (TN-BC)

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Background: TN-BC that accounts for 15−20% of all breast malignancies is associated with a poor clinical outcome. Anthracylines, taxanes and alkylating agents have been shown to be active in TN-BC. Due to the phenotypic and molecular similarities existing between TN-BC and BRCA-associated breast cancer it is conceivable that both cancers may share the same sensitivity to platinum analogues. However clinical data are limited and there is no consensus regarding optimal chemotherapy for the treatment of such patients. Since 1993 we have been treating advanced cancer patients with high-dose cyclophosphamide (CTX), carboplatin (CBDCA), etoposide (VP-16) chemotherapy with hematological growth factors, without stem cell support (Anticancer Res 23:4141–4148, 2003). Here we report the results of a phase II study on TN-BC treated with a combination of induction chemotherapy, chemo-radiation therapy and consolidation high-dose chemotherapy.
Methods: After protocol approval by the local ethical committee, 68 patients that had histopathologic confirmation of TN-BC, signed informed consent and were entered into the study. Adjuvant chemotherapy that was administered preoperatively to 12 patients consisted of epirubicin 75 mg/m^2 and docetaxel 75 mg/m^2, day 1 (D1) every 3 weeks, for 4 courses. Radiation therapy 5000 cGy to the chest wall or residual breast tissue, axilla and supraclavicular nodes, was administered with concomitant CTX 600 mg/m^2, methotrexate 40 mg/m^2, 5-fluorouracil 600 mg/m^2 (CMF) D1 every 3 weeks, for 6 courses, to 43 patients (63%) with partial mastectomy and to 25 patients (37%) with modified radical mastectomy. 2 courses of dose-intensified chemotherapy with CBDCA, AUC=6, VP-16, 500 mg/m^2, CTX, 1200 mg/m^2, over 3 days, every 4 weeks, followed chemo-radiation therapy. Granulocyte-colony-stimulating factor was administered after CTX, CBDCA, VP-16.
Results: Median age was 44 years, (range 26−70 years). 77.5% premenopausal. Stage distribution: II − 67%, III − 33%, inflammatory 9%, median tumour size was 4 cms. All 68 patients were evaluable for toxicity and response. We did not observe any unexpected toxicity or treatment-related death. Follow up duration ranged from 25 to 120 months, median 88 months. Clinical response to preoperative chemotherapy: Partial response 6 patients, complete response (CR) 4 patients, disease stability 2 patients. Pathological CR was observed in 3 of 12 patients (25%; 95% CI 5−57%) that received preoperative chemotherapy. No patient progressed during the adjuvant treatment. 4 patients developed controlateral breast cancer. After a median follow-up of 88 months, 5 and 10-year disease free survival (DFS) rate was 79.5% and 70%, respectively, while 5 and 10-year overall survival (OS) rates was 93% and 86%, respectively.
Conclusion: Induction chemotherapy with epirubicin and docetaxel, followed by concomitant chemo-radiation therapy and by consolidation with CTX, CBDCA, VP16 is capable to give prolonged DFS, and OS with an acceptable toxicity profile, in triple negative breast cancer.