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POSTER

Microarray Based Determination of ER, PR and HER2 Receptor Status Compared to Local IHC/FISH Assessment in 641 Patients

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Background: The level of estrogen receptor (ER), progesterone receptor (PR) and HER2 expression is predictive for prognosis and/or treatment response in breast cancer patients. However, differences in fixation and IHC and subjective interpretation can substantially affect the accuracy and reproducibility of the results. The commercially available TargetPrint test measures the mRNA expression level of ER, PR and HER2 and provides an objective and standardized alternative to IHC. This study compares results from the microarray-based TargetPrint with IHC and FISH generated by local standard procedures.

Material and Methods: Prospective tumour samples were collected for 641 patients diagnosed with breast cancer stage I to IV between 02/08 and 08/10. The mRNA level of ER, PR and HER2 (TargetPrint) was assessed in a central laboratory (Agendia BV, Amsterdam) in fresh tumour samples submitted from 13 hospitals in Europe, 2 in New Zealand and 1 in Japan. The results of the IHC/FISH assessments performed according to the local standards at the hospitals were compared to the quantitative gene expression readouts.

Results: Of the 641 samples, HER2 IHC/FISH assessment was unknown for 12 samples and for one sample ER/PR IHC assessment was unknown. Median age of these patients was 60 years. Comparison of IHC and gene expression read out by TargetPrint showed a concordance of 95% for ER; 82% for PR and 92% for HER2.

Conclusion: Microarray based readout of ER, PR and HER2 status using TargetPrint is highly comparable to local IHC and FISH analysis over 600 analyzed samples in various hospitals.

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POSTER

Feasibility of Home-adapted Aerobic Exercise Training on Peak Oxygen Consumption and Fatigue in Breast Cancer Patients During Adjuvant Chemotherapy

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Background: Breast cancer chemotherapy may cause unfavorable changes in fatigue and physical functioning. Few interventions have been shown to prevent these declines and physical exercise has been identified as a potential intervention to cancer-related fatigue and cardiopulmonary function. A feasibility study examining the effects of a 12-week adapted home-based aerobic exercise program on fatigue severity scale, physical function, and functional capacity in breast cancer patients receiving adjuvant chemotherapy.

Material and Methods: Using a single-group design, 33 patients with predominantly stage II breast cancer performed 3 home ambulatory aerobic walking sessions per week at 50–60% of the exercise heart rate for 12 weeks. Participants exercised for the duration of their chemotherapy, beginning in the days following the 3rd cycle and ending after chemotherapy. A measure of functional capacity was determined using an incremental cardiopulmonary exercise test with measurement of peak oxygen consumption (VO₂peak). Six-minutes walking test (6MWT) was performed as a measure of physical function. The revised Piper fatigue Scale (PFS) was used to measure self-reported fatigue.

Results: Nine-patients (27.3%) either did not perform the walking exercise program or did less than half of it, and only 24 patients (72.7%) completed all study procedures. Intention-to-treat analysis indicated that VO₂peak performed before and after home exercise program increased significantly 2.21 mL/kg-1/min-1 (P < 0.001). PFS score and 6MWT increased but not significantly by 0.4 points and 3 meters, respectively. There was no side effect attributable to the walking exercise program.

Conclusions: In cancer patients receiving adjuvant chemotherapy, home-based adapted exercise program is feasible and associated with significant improvements in VO₂peak, with no significant effect on fatigue score. Results of this pilot study provide positive preliminary evidence that original

home-based exercise during adjuvant treatment may be physiological beneficial for breast cancer patients and did not worsen fatigue scores during the trial. Further work and larger randomized trials are necessary.

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POSTER

Clinical Characteristics of Breast Cancer in Young Patients

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Background: Breast cancer in young women is common in Algeria, the national survey found an incidence of 9000 new cases per year and the average age is 48 years.

The objective of the study is to provide the clinical and histological profile of breast cancer in young patients.

The retrospective study over a period of 6 years, 238 patients with an age inferior or equal to 35 years.

Materials and Methods: Between January 1st, 2005 and December 31st, 2010, 238 patients were treated with age inferior or equal to 35 years.

Have to give: age of puberty, notion of taking an oral contraception, history of cancer in the family, reason for consultation, presence or absence distant metastases.

The following parameters were evaluated: BMI, histology of tumour, the number of metastasis lymph nodes, the grade SBR, hormonal receptor and HER 2/ neu.

Results: Age of the menstruation >12 years is 72.9%, 39% single, notion of taking an oral contraception 39%, cancer in the family 23.1%, BMI >30 is 19.7%, reason for consultation was represented by a nodule breast self examination 89.9%, T3 is 60%, stage 4 is 19.9% (13.4% metastatic bone, 6.7% metastatic liver), the most common histological type is ductal carcinoma, the lymph node status: positive 69.8%, negative 30.2%; positive hormonal receptors 56%, negative hormonal receptor 26%, HER2+ 30.6%.

Conclusions: In our department, the young patients affected by breast cancer have: BMI >30 with high percentage, the large tumour, the lymph node metastasis, and high percentage of oestrogen receptor and progesterone receptor positive tumours.

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POSTER

Breast Conserving Therapy – Morbidity and Cosmetic Outcome in DBCG Protocols TM-89, -99 and -01

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Background: Based on large international and national clinical trials comparing mastectomy and BCT (Breast Conserving Therapy = Breast Conserving Surgery + Radiotherapy), Danish Breast Cancer Cooperative Group (DBCG) introduced BCT as a standard treatment in Denmark in 1990. Since then no evaluations have been performed to ensure good cosmetic outcome and low levels of adverse reactions in Danish patients. This study was designed to evaluate these issues.

Material and Methods: A total of 214 patients treated with BCT according to the DBCG protocols from 1989 to 2002 participated in a single follow-up visit, comprising an interview, a clinical examination, clinical photos and completion of a questionnaire. Patients were divided into 3 treatment-groups: no adjuvant treatment, chemotherapy and anti-hormone therapy. Data were analyzed using univariate logistic regression.

Results: Mean follow-up time was 12.3 (range 7 to 20) years. Moderate to severe fibrosis was found in 49 patients (23%). Other adverse reactions (telangiectasia, oedema, dyspigmentation) of moderate to severe degree were found in 55 patients (26%). Fibrosis was more common in those who received chemotherapy (OR 2.6 p = 0.02), were current smokers (OR 2.4 p = 0.02) or had large breasts (bra cup size ≥ C; OR 3.2 p = 0.001). Patients with a satisfactory cosmetic outcome, when assessed by a clinician, were characterized by small tumours (≤ 2 cm; OR 3.7 p = 0.001), small to medium breasts (bra cup size < C; OR 1.9 p = 0.02), no adverse reactions to radiotherapy (excluding fibrosis; OR 4.4) and no obesity at follow-up (BMI < 30; OR = 7.2 p < 0.0005). Fifty percent of patients scored 'Good' 'Excellent' when assessed by a clinician compared to 88% when reported by the patients themselves.

Patients were more likely to be satisfied with their own cosmetic outcome if they were younger (<50 years; OR 3.2 p = 0.03), had no postoperative complications (OR 3.4 p = 0.02), had no fibrosis (OR 6.4 p < 0.0005) or had no more than one positive lymph node in the axilla (OR 3.6 p = 0.01).

Conclusions: It is important to do long-term investigations of patient-morbidity and cosmetic outcome when a treatment has been applied as