

381

Poster

Living with Lymphoedema: a Qualitative Exploration of Prospective Non-compliance with Conservative Treatment in Women Survivors of Breast Cancer

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Background: This occupational therapy doctoral research presentation reports on life with lymphoedema post-breast cancer treatment, particularly in relation to women's self-perceived imposition of restrictions associated with conservative treatment protocols and the implications of this for compliance with treatment regimens.

Material and Methods: A longitudinal narrative approach was used to examine the lived experience of breast cancer from the perspectives of seven Irish women over a three year period. In-depth semi-structured interviews were recorded and transcribed verbatim and then analysed using Interpretative Phenomenological Analysis (IPA) in order to explore the participants' own sense-making of their experiences.

Results: These indicate that compliance with conservative treatments prescribed for lymphoedema of the upper arm associated with breast cancer treatment is partial, because of perceived conflict with the performance of valued roles and activities (occupations) that have subjective preferential status and a higher priority for participants. Results are supported with and illustrated by the use of verbatim quotes from participants.

Conclusion: Rehabilitation professionals need to seek out the likely factors that will influence risky choice-making behaviours in relation to lymphoedema self-management and to further include targeted prospective advice on predictable and anticipated factors such as performance of valued roles and important activities, in order to assist breast cancer survivors affected by lymphoedema to more fully comply with conservative treatment regimens. Such an anticipatory approach can prevent exacerbation of lymphoedema of the affected upper limb by promoting prospective problem-solving by women prior to engagement in their meaningful activities of daily living.

382

Poster

Efficacy, Safety Profiles and Cost-effectiveness Analysis of Pegfilgrastim and Lenograstim in Patients with Non Metastatic Breast Cancer Receiving Adjuvant Myelosuppressive Chemotherapy

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Background: Neutropenia is common in patients receiving myelotoxic chemotherapy (CT). We evaluated the efficacy, cost and safety (incidence of bone pain) of a single subcutaneous injection of pegfilgrastim (6 mg) after the first cycle of CT, compared with 6 administration of daily subcutaneous injections of lenograstim (263 µg), in the primary prophylaxis of neutropenia, in women with non metastatic breast cancer receiving adjuvant CT with FEC100 (epirubicin 100 mg/m² with 5-fluorouracil 500 mg/m² and cyclophosphamide 500 mg/m² every 21 days).

Material and Methods: To date, in this prospective pilot study, 20 patients have been enrolled. Eligible patients (pts) were women (>18 years old) diagnosed with high-risk non metastatic breast cancer. Other eligibility requirements were PS=0; absolute neutrophil count $\geq 1.5 \times 10^9/L$, platelet count $\geq 100 \times 10^9/L$ and adequate hepatic, renal and cardiac function. All women received one course of CT according to the scheme FEC 100. Eight pts received on day 2 a single dose of pegfilgrastim and 12 pts were treated with daily administration of lenograstim from day 5 to day 10. Absolute neutrophil count and duration of grade 3/4 neutropenia were monitored with serialised blood samples in all pts. The incidence of bone pain was evaluated with Visual Analogue Scale (VAS) system. A cost-effectiveness analysis was performed.

Results: The incidence of grade 3-4 neutropenia in cycle 1 was 75% in pts who received pegfilgrastim, and 25% in pts who received lenograstim. One case of febrile neutropenia was shown in the group of pts treated with pegfilgrastim. Mean duration of grade 3-4 neutropenia in cycle 1 was 2 days for pegfilgrastim and 1.4 days for lenograstim. 37.5% of pts, who received pegfilgrastim, had pain (VAS 1-3: 0%; VAS 4-6: 25%; VAS 7-10: 12.5%) vs 58.3% in lenograstim group (VAS 1-3: 0%; VAS 4-6: 16.7%; VAS 7-10: 41.7%). The median duration of bone pain in pegfilgrastim group was 4 days vs 6 days in lenograstim group. In Italy the cost of a single

injection of pegfilgrastim was about 1489.00 euro compared with about 786.00 euro for six subcutaneous injections of lenograstim.

Conclusion: In our experience, a single injection of pegfilgrastim was less effective and more expensive than 6 daily administration of lenograstim to control neutropenia. The safety profiles of pegfilgrastim and lenograstim were similar with lower incidence of bone pain in pts treated with pegfilgrastim.

383

Poster

State Anxiety and Depressive Symptoms in Women with Breast Cancer, Benign Breast Disease and Gallstone Disease: is Personality a Factor of Influence?

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Background: High trait anxiety determines high state anxiety and depressive symptoms in women with breast cancer (BC). We examined whether this is caused by the combination of personality and diagnosis or solely by the personality characteristic high trait anxiety. Trait anxiety is defined as a stable individual difference in anxiety proneness.

Methods: In a prospective longitudinal study women with BC (N = 152), benign breast disease (BBD, N = 205), and gallstone disease (GD, N = 128) were included. Questionnaires concerning trait anxiety, state anxiety and depressive symptoms were completed before diagnosis was known (BC and BBD) or before the laparoscopic cholecystectomy (GD) and six months later. Multivariate linear regression analysis was performed to analyse the predictors for state anxiety and depressive symptoms at six months.

Results: Women with BC were more anxious at baseline than women with BBD or GD. Scores on depressive symptoms at baseline were higher in women with BC or BBD compared with GD. At six months scores on depressive symptoms in BC remained higher compared with GD.

Per diagnosis women with high trait anxiety scored significantly higher on state anxiety and depressive symptoms at all time points compared with women not prone to anxiety.

Regression analysis revealed that state anxiety at six months was predicted by depressive symptoms at baseline in women with BC. Depressive symptoms at six months were predicted by depressive symptoms at baseline in all three groups. A high score on depressive symptoms at baseline and at six months was found in women with high trait anxiety in resp. 61% (BC), 63% (BBD) and 29% (GD) and in the not-high trait anxiety group in resp. 37% (BC), 16% (BBD) and 18% (GD).

Conclusion: The combination of an anxious personality and the diagnosis BC results in higher momentary anxiety at baseline and ongoing depressive symptoms until six months. Therefore, we recommend to identify those women with a high score on trait anxiety and to offer them a tailor-made follow-up protocol.

384

Poster

Ipsilateral Hemodialysis Access After Axillary Dissection for Breast Cancer

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Background: There are no evidence based guidelines for lymphedema prevention but there are sweeping recommendations to avoid physical injury to the ipsilateral limb, including needle puncture, after formal axillary lymph node dissection (ALND) with or without radiotherapy. Two studies have shown little or no effect of hand surgery in producing or exacerbating lymphedema after ALND with or without radiotherapy. Dialysis access guidelines recommend the use of autogenous accesses over synthetic grafts whenever possible. Autogenous arteriovenous fistulas were constructed in two patients with end stage renal failure in the ipsilateral arm after ALND.

Materials and Methods: Two patients who had exhausted the available veins for access construction in the contralateral arm were referred for hemodialysis access construction in our center. Pre-operative duplex ultrasound was performed to plan the best access. This is routine for all patients in our access center. Both patients were examined for signs of lymphedema after access construction.

Results: One patient had a lumpectomy and ALND with 23 axillary lymph nodes resected, 2 of which were metastatic. She received standard post-operative anthracycline based chemotherapy followed by radiotherapy

to the breast and the axillary, supraclavicular and internal mammary fields. Ipsilateral access was established ten years later. The other patient had a mastectomy and axillary dissection with no involved nodes of 23 resected, and no adjuvant chemotherapy or radiotherapy. An autogenous access was constructed in the ipsilateral arm after eleven years. Both patients had exhausted the veins available for access construction in the contralateral arm. Pre-operative examination showed patent veins appropriate for autogenous access construction in the ipsilateral arms. Neither patient developed significant lymphedema at one and five years respectively after access construction with cannulation for dialysis three times a week.

Conclusions: The accepted recommendations for lymphedema prevention may exaggerate the extent of risk attributable to interventions in the ipsilateral arm. A salutary benefit of the recommendations in these patients may have been the preservation of venous vasculature due to the avoidance of ipsilateral venipuncture. As a result of our experience a third patient has been scheduled for ipsilateral autogenous access construction, in order to avoid construction of a synthetic graft access in the contralateral arm.

385 Poster
Antibiotic Prophylaxis as a Preventative Wound Infection After Breast Surgery

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Background: There is currently no consensus regarding the use of antibiotic prophylaxis in breast surgery. In this study we tried to propose type of used prophylactic antibiotic.

Material and Methods: For 600 female patients in period of two years who underwent breast cancer surgery we used three types of antibiotics: cephalosporin, erythromycin, amoxiclav (200 patients per group). For every group we used different type of antibiotics.

Results: In total we had 32 wound infections (5.3%). It was found that the breast cancer surgery wound infection rate varied with the type of antibiotic. The lowest rate was for cephalosporin 5 (15.6%), for erythromycin 11 (34.4%) and for amoxiclav 13 (41%) of wound infections.

Conclusions: In conclusion, preoperative prophylactic antibiotics reduce postoperative wound infections in breast operations. Antibiotic prophylaxis is a simple and safe way to decrease postoperative breast wound infections. We recommend routine use of antibiotic prophylaxis for breast operations as a single dose of intravenous cephalosporin antibiotic given within 1 to 2 hours before skin incision.

386 Poster
The Role of Cardiovascular Risk Factors and the SCORE Risk as Predictive Factors of Trastuzumab-mediated Cardiotoxicity

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Background: Trastuzumab is a monoclonal antibody against the human epidermal growth factor receptor 2 that is found to be overexpressed in 25% to 30% of breast cancer patients. In spite of the therapeutic benefits of Trastuzumab, cardiotoxic side effects are still an issue. The aim of this study is to evaluate the role of various cardiovascular risk factors as predictive factors of trastuzumab-mediated cardiotoxicity.

Material and Methods: Clinical records of 116 female patients with early and advanced breast cancer treated with trastuzumab were reviewed. Age, total cholesterol, smoking status and systolic blood pressure were used to calculate the SCORE (The Systematic Coronary Risk Evaluation) risk for each patient. Other cardiovascular risk factors like body mass index, diabetes and personal history of cardiovascular disease were also assessed. New York Heart Association classification was used to document symptomatic cardiotoxicity. Asymptomatic cardiotoxicity was defined as an absolute drop $\geq 10\%$ with a final left ventricular ejection fraction $< 50\%$ or an absolute drop $> 20\%$, as determined by radionuclide angiography or transthoracic echocardiogram.

Results: The median age of the patients was 50 years (range 32–76). Nineteen of 91 (20.9%) early breast cancer patients and 6 of 25 (24%) with advanced disease experienced asymptomatic cardiotoxicity. One patient with advanced breast cancer developed symptomatic congestive heart failure. Patients with trastuzumab-related cardiotoxicity presented more often with some cardiovascular risk factors, such as history of cardiovascular disease (23.1% versus 15.6%) and body mass index ≥ 30 Kg/m² (46% versus 33.3%), but statistical significance was not observed. Age, diabetes and the SCORE risk didn't have a statistical significant impact in the development of trastuzumab-mediated cardiotoxicity.

Conclusions: Breast cancer patients with obesity and/or history of cardiovascular disease treated with trastuzumab have an increased incidence of cardiotoxicity.

387 Poster
Use of Complementary Naturopathic Therapies in Breast Cancer Patient Care – Single-center Experiences From the Interdisciplinary Breast Center of the Technical University Munich, Germany

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Introduction: 60–80% of breast cancer patients use naturopathic therapies in addition to regular therapies. Major criticism concerns the wide range of different such treatments as well as the lack of prospective, randomized trials. Unquestioned, however, is their benefit as additional treatment options to minimize adverse effects of surgical, local, or systemic therapies, such as wound healing disorders, fatigue, or emesis etc.

Based on a broad prior clinical experience phytotherapeutic and naturopathic therapies were integrated into clinical routine treatments of breast and ovarian cancer patients.

Materials and Methods: In 2009 a consultation for complementary and naturopathic medicine was integrated into the outpatients' clinic of the Interdisciplinary Breast Center of the TU Munich. Until now, 1308 patients have been treated ambulant and additional ones as inpatients. We report on selenium supplementation and mistletoe therapy accompanying oncologic therapy, on taraxacum as a modulator of neoadjuvant therapy, arnica, calendula, anthyllis, and iris germanica as wound healing and tissue regenerating medications in the postoperative setting of plastic-reconstructive breast surgeries. Hempseed oil is tested in clinical trials as a preventive for hand-foot syndrome seen with caelyx or capecitabine therapies.

Results: The integrated overall concept of naturopathic treatments is presented and discussed in case reports.

Discussion: Noticeable is the high patients' acceptance and compliance of naturopathic complementary medicine when embedded in the overall concept of personalised cancer medicine. Integration in postoperative wound healing processes leads to a significant reduction and to an increased well-being of the patients.

388 Poster
The Value of Patient-reported Outcomes in the Management of Women with Breast Cancer

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Background: Efficacy of breast cancer treatment is traditionally based on objective clinical data. At present patient-reported outcomes (PRO), in particular, quality of life (QoL) and symptoms are of increasing importance in evaluation of treatment outcomes in cancer patients. We aimed to study usefulness of assessing QoL and symptoms in breast cancer patients receiving antitumor treatment.

Materials and Methods: One hundred and seven breast cancer patients (Stages I-IV) were included in the study. Mean age/SD – 53/10 y.o. All the patients underwent a taxane containing chemotherapy (CT) with the previous treatment consisting of chemotherapy (89%), surgery (69%), radiotherapy (39%), hormone therapy (24%) or biotherapy (9%). QoL was assessed using generic QoL questionnaire SF-36; symptom profile and severity – using Comprehensive Symptom Profile in Patients with Breast Cancer (CSP-Br). The CSP-Br is a self-reported tool which allows the assessment of the severity of 57 symptoms specific for breast cancer patients.

Results: Feasibility of PRO tools was good: 95% of patients completed all the items; the percentage of missing items was low – 2.4%. The vast majority of patients mentioned the importance and usefulness of PROs tools to facilitate communication with physicians. The data produced by PROs were clear for interpretation by oncologists and were used by them in day-to-day decision making. It was shown that during a taxane containing CT 23% of patients had no QoL impairment; 15% patients – mild QoL impairment, 33% – moderate or severe QoL impairment, and 19% – critical QoL impairment. The most prevalent and disturbing symptoms were the following: hair loss (>90%), fatigue, felling of constant tiredness (>80%) and psychological symptoms (>70%). Symptom profile and severity varied depending on the assessment time-point.

Conclusions: PROs is a valuable outcome of breast cancer treatment along with clinical outcomes. The SF-36 and CSP-Br are robust and informative tools to measure patient perspective on the efficacy of breast