Breast cancer

200 EVALUATION OF A PROPOSED TRASTUZUMAB BIOSIMILAR COMPARED WITH TRASTUZUMAB IN NEOADJUVANT BREAST CANCER TREATMENT

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Introduction/Background The use of trastuzumab in the treatment of HER2-positive breast cancer has changed the natural history of this disease. Trastuzumab was approved as a component of neoadjuvant treatment as well as adjuvant and metastatic. Biosimilars demonstrate chemical similarity and clinical efficacy to a reference product and are an option to provide access to high-quality systemic therapy alternatives.
Methodology This is a retrospective observational study revising patients treated with neoadjuvant therapy with trastuzumab (proposed biosimilar or trastuzumab) between january 2017 (period of introduction of the drug in our institution) - january 2020. All patients were treated with the same trastuzumab biosimilar drug.
Results Twenty-two patients (n=22) were included, with mean age at diagnosis of 55 years (range 31–84). Fifteen (n=15) patients were treated with proposed biosimilar and 7 patients with trastuzumab. Regarding histologic type, 82% (n=18) of patients had invasive carcinoma of no special type (NST), 5% (n=1) apocrine, 5% (n=1) invasive lobular and 5% (n=1) mucinous carcinomas. Sixteen patients had HER2 positive, hormone receptor (HR) positive tumors and 6 patients a HER2 positive, HR negative tumors. Regarding treatment, 86% of patients were treated with anthracyclines and in 5% (n=1) pertuzumab was used. In the trastuzumab group, 2 patients presented grade 1 toxicity (heart failure); in the proposed biosimilar group, 2 patients presented grade 1 toxicities (heart failure and dyspnea). Infusion reactions were not documented, namely hyperthermia. Axillary pCR was achieved in 86% (n=6) and 53% (n=8) in trastuzumab and proposed biosimilar groups respectively. Breast pCR was achieved in 86% (n=6) and 33% (n=5) in trastuzumab and proposed biosimilar groups respectively. There was no statistically significant difference between the proposed biosimilar versus trastuzumab for toxicities, achievement of axillary and breast pCR.
Conclusion The use of trastuzumab compared with the proposed biosimilar resulted in an equivalent axillary and breast pCR. Our results are concordant with the clinical trial results performed and support the evidence for their continued use.
Disclosures No disclosure.

382 COMPARISON OF THE EFFICACY OF REIKI VERSUS SPORT AS SUPPORTIVE CARE DURING NEOADJUVANT CHEMOTHERAPY OF EARLY BREAST CANCER: SUB ANALYSIS OF THE RANDOMIZED CONTROLLED REASSURE (REIKI AS SUPPORTIVE TREATMENT DURING CHEMOTHERAPY OF BREAST CANCER) STUDY

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Introduction/Background Breast cancer is the most common cancer of the female, and the second most common cancer overall. While chemotherapy is standard of care for many patients with this type of cancer, it is associated with various side effects that require supportive care. In addition to standard medical therapies, patients may benefit from complementary treatments, such as sport therapy or Reiki. Reiki is a far eastern method that promotes healing on a physical, mental and emotional level and activates self-healing powers. Aim of this study was to compare the efficacy of Reiki versus Sport as supportive care during primary systemic therapy of early breast cancer within the REASSURE study.
Methodology REASSURE was a prospective, randomized, controlled, two-armed clinical trial, in which patients with breast cancer received chemotherapy and Reiki (18 times) or chemotherapy and sport (18 times). This evaluation specifically focused on patients who received neoadjuvant chemotherapy with four cycles of Epirubicin and Cyclophosphamide followed by 12 cycles of a Taxane. All patients were enrolled in the REASSURE-study and randomized before their first chemotherapy cycle. While sport therapy was delivered as conventional physiotherapy, Reiki was delivered by a trained Reiki practitioner. We conducted a statistical analysis using Wilcoxon Rank sum tests to compare incidence of adverse events (febrile neutropenia (FNP), fever, infection, blood count variation, hospitalization), dose modifications (therapy discontinuation, dose interruption, dose reduction) and use of conventional medical supportive care treatments (G-CSF, antibiotics, blood transfusion, platelet transfusion).
Results A total of 48 subjects were included, of which 27 received Reiki and 21 received sport treatment. When comparing FNP events between both groups, we found 3 events in the sport group, whereas there were none in the Reiki group ($p = 0.047$). The median number of GCSF-application was 4 (range 0 to 8) in the sport group versus 0 (range 0 to 8) in the Reiki group ($p = 0.006$). For all other parameters, calculation of 95 percent confidence intervals showed no clinically significant difference between the two groups.
Conclusion Reiki may pose a viable alternative medical treatment option to sport as a supportive therapy option to combat side effects of neoadjuvant Epirubicin, Cyclophosphamide and Taxane chemotherapy for breast cancer treatment. To better understand the beneficial influence of this therapy, further research is needed to compare Reiki with a control group receiving no additional therapy.
Disclosures REASSURE Studie - This study is a collaborative study between Frauenklinik Rechts der Isar, Frauenklinik des Rotkreuzklinikums, Frauenklinik der München Klinik Harlaching, and ProReiki – Berufsverband e.V.. There was no funding.
There are no conflicts of interest.

531 12-YEARS RESULTS OF THE KAZAKHSTAN BREAST CANCER SCREENING PROGRAMME

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Introduction/Background Breast cancer (BC) is one of the most common tumours in the globe. Since 2011, BC in Kazakhstan has been ranked first in the structure of the

overall cancer incidence and 4 in the structure of the overall cancer mortality. Since 2008, population BC screening has been introduced among women 50–60 years old with an interval of 2 years. In 2014, 80% of mammography devices were digitized. Since 2018, the screening age has been extended to 40–70 years.

Methodology The following screening indicators were analyzed: the cancer detection rate (CDR), the proportion of 0–1 stages (since 2011), the interrelation with the dynamics of morbidity and mortality. According to the levels of morbidity (average annual rate for 2004–2007), the regions of the country are divided into three groups: A - high (23.2–30.8 per 100 000 population), B - mid (18.4‰-22.5‰), and C - low (13, 2–15.18‰) rate.

In total, over 12 years of screening, 5,763,518 women were examined, 9,323 cases of BC were identified. Coverage to the targeted population ranged from 82% in 2012 to 47.5% in 2018. Since 2011, BC screening cases (8 330) have been compared with the cancer registry.

Results Average CDR in 2011–2019 was 0.18%, in groups A - 0.23%, B - 0.20% and C - 0.14%. The share of 0-I stages was 36.2%, in groups A - 39.9%, B - 29.9% and C - 22.1%.

The average annual baseline morbidity (2004–2007) was in groups A - 26.6 per 100 000 population, B - 21.2‰ and C -14.3‰. Before digitalization (2008–2014), the average annual morbidity in groups was: in A - 30.5‰, B - 22.8‰, C - 16.5‰, after digitalization, respectively 31.5, 23.8 and 18.7.

The greatest increase of morbidity was noted in groups A and C (20.6% and 30.7%), less in group B (12.4%). Screening increased the incidence since 20.8‰ in 2008 till 25.3 in 2018 and slightly reduced the mortality rate from 8.5 (2008) to 6.8 (2018) per 100 thousand of the population.

Conclusion Over the 12 years of screening in Kazakhstan, the BC incidence has increased and mortality has decreased. Regions with a high baseline morbidity had higher CDRs by screening, especially in the first years, as well as high levels of BC detection in stage 0-I. It is possible that radiologists have better skills and women's cancer awareness is higher in regions with a high cancer incidence.

For regions with different BC incidence rates, it is necessary to identify indicators to assess of the effectiveness and improve the quality of screening.

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551 A RETROSPECTIVE STUDY OF STERNAL METASTASES IN BREAST CANCER

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Introduction/Background Sternal metastases of breast cancer are rare. Their occurrence is due to the spread of malignant cells via the hematogenous route or via a local pathway from the internal mammary nodes.

The aim of this study is to define the different pattern of sternal malignant abnormalities on bone scan.

Methodology It is a retrospective study including breast cancer patients, referred for bone scan during 2019, at the Nuclear Medicine department of Tlemcen University Hospital in Algeria.

Two hours after the intravenous injection of 8–10 MBq/kg 99mTc-HMDP, whole body scanning is accomplished by dual head hybrid gamma camera with low energy high resolution collimator. The SPECT/CT (single photon emission tomography/computed tomography) acquisition is used to better characterize the presence, location, and extent of disease in some patients.

Results A total of 54 malignant sternal abnormalities were found in 500 breast cancer patients (10,8%).

Half of the lesions (27 cases) were located in the sternal body, 17 (32%) in the manubrium and 10 (18%) in the entire bone structure.

The majority of sternal abnormalities (47 cases; 87%) was found as a part of multiple metastases, while only 2 cases (4%) as a part of oligometastases and 5 cases (9%) as the initial site of bone metastases.

A solitary sternal uptake on bone scan is difficult to interpret due to various etiologies, both benign and malignant. The SPECT/CT acquisition has allowed us to define the secondary origin of the radioactivity uptake after cross sectional study and confrontation with morphological imaging.

The predominant scintigraphic pattern was that of hot lesions (48 cases; 89%), which highlights an osteoblastic hyperactivity. A cold lesion representing an osteoclastic activity, is rarely seen in bone scan until it is surrounded by an increased radioactivity uptake. The latter aspect was found in 6 patients (11%).

Conclusion Radionuclide bone scintigraphy is a useful tool for recognizing sternal abnormalities in breast cancer patients.

Disclosures We have no disclosures.

556 AXILLARY LYMPHADENECTOMY VS. SENTINEL NODE BIOPSY FOR EARLY-STAGE CLINICALLY NODE-NEGATIVE BREAST CANCER: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction/Background Axillary lymph node dissection had been for years the gold standard for surgical staging and locoregional control of axilla in early-stage breast cancer patients. However, sentinel node biopsy has been placed in early 1990s as an effective alternative method of surgical staging. Main objective of the study is to compare oncological and survival outcomes between systematic axillary lymph node dissection (ALND) vs sentinel lymph node and axillary lymphadenectomy only if sentinel positive (SLN ± ALND) in early-stage, clinically node-negative breast cancer patients.

Methodology A systematic review and meta-analysis adhered to PRISMA guidelines was performed. Included studies were prospective randomized controlled trials (RCTs) comparing survival outcomes of ALND vs. SLN ± ALND in early-stage, node-negative breast cancer patients. Patients enrolled were only those with tumor size lower than 4 cm, clinically negative nodes and treated with breast-conservative surgery. Primary outcomes were locoregional recurrence, overall death and cancer-related death.