

on AI and one (3%) on tamoxifen discontinued treatment during the first year due to musculoskeletal problems. Mean maximum difference between baseline and follow-up grip strength was -7 kPa for the left hand and -8 kPa for the right hand in AI patients, whereas a difference of -4.7 kPa and -5.6 kPa was assessed for the left and right hand in tamoxifen-users. Although patients who stopped AI treatment as a consequence of joint and muscle pains were characterized by a larger decrease in grip strength in both hands (-8.1 kPa in the left hand and -9 kPa in the right hand) compared with compliant AI patients, this difference was not statistically significant between compliant and non-compliant patients.

**Conclusion** Our preliminary results confirm that arthralgia is a substantial problem in patients treated with an AI and is an important reason for early treatment discontinuation. The decrease in grip strength over time was larger in AI than in tamoxifen treated patients. However, patients urged to stop AI treatment as a consequence of musculoskeletal problems only appeared to have small differences in loss of grip strength as compared to compliant patients. The predictive capacity of changes in grip strength for compliance is therefore questionable.

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Poster

### Rehabilitation in Breast Cancer. Arm Morbidity

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There is a lot of studies about lymphedema (LF) in breast cancer (BC) and its relation to cancer treatment, there are a few studies about arm morbidity and the need for diagnosis and specific treatment of each condition in a rehabilitation service. There isn't studies about global risk for BC in the Spanish people.

**Objective:** Analysis of risk factors for arm morbidity in BC.

**Materials and Methods:** Material: Patients with BC and an early rehabilitation protocol according to BC clinical guide in Hospital 12 Octubre de Madrid.

Type of study: longitudinal prospective cohorts to 10 years (N = 476).

Statistical analysis: descriptive regional morbidities. Risk analysis, odds ratio, Xi-square and Fisher in the univariate analysis., multivariate logistic regression analysis.

**Results:** The most common morbidity one month after the surgery is the limitation of mobility (18%), the pain is the most prevalent symptom during all period. Lymphedema starts between 6-12 months, with 18% at 10 years. The global relative risk (RR) is significant in obesity, extension node dissection and radiotherapy (p=0.00), remaining in the multivariate analysis.

**Conclusion:** The most prevalent symptom was pain. Lymphedema was less frequent than in other series followed in a long time, probably produced because of early diagnosis and treatment. Morbidity risk analysis in BC allows to do treatments in women with more risk of suffering adverse effects.

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### Cosmetic Results of High Dose Rate Brachytherapy Boost Versus Electron Beam Boost in the Treatment of Early Breast Cancer

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**Background:** To evaluate the effect of high dose rate brachytherapy (HDR BT) boost versus electron beam boost on local tumor control, side effects and cosmesis after breast conserving surgery in early breast cancer.

**Materials and Methods:** 40 women with Stage I-II breast cancer who underwent breast conserving surgery were treated by 50 Gy adjuvant radiotherapy to the whole breast and then randomly assigned to receive 15-16 Gy boost to the primary tumor bed either with HDR BT (n=20) or electron beam using linear accelerator (n=20). HDR BT was performed using interstitial Iridium-192 temporary implants. Breast cancer related events, side effects and cosmetic results were assessed after one and a half year.

**Results:** There was no significant difference in local tumor control between patients treated with electron or HDR BT boost over a period of one and a half year in our study. Patients in the electron group had better cosmesis than those in the implant group, which was statistically significant. However, patients in the implant group had increased fibrosis and pigmentation than the electron group.

**Conclusions:** Patients with early breast cancer after undergoing breast conserving surgery and whole breast irradiation have better cosmetic results and reduced chances of fibrosis when they are given electron boost as compared to HDR BT boost. For local tumor control assessment long

term follow up studies are needed. Breast conservation therapy nowadays is an effective treatment for early breast cancer with more and more patients preferring this option due to better psychosexual quality of life.

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### Genome-wide Association Study in Breast Cancer Survivors Reveals SNPs Associated with Gene Expression of Genes Belonging to MHC Class I and II

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**Introduction:** Breast cancer survivors differ from healthy women by having experienced tumor growth and having received cancer treatment, some of which administered over several years. However, the constitutive biology of BC survivors has not been the focus of any studies. We investigated the effect of genetic variation on gene expression in blood from a cohort of BC survivors. Further, we investigated the associations that were specific for BC survivors, by performing identical analyses for a group of healthy women, and exploring the associations occurring in breast cancer survivors only.

**Methods:** eQTL analyses in cis and trans were performed on 528,587 single nucleotide polymorphisms (SNPs) and 11,942 gene expression probes for 288 BC survivors (full data set). Further, using a subset of the data, comprised of 108,326 SNPs and expression data for 3,888 genes, eQTL analyses in cis and trans were performed on 288 BC survivors and on 81 healthy women separately and results were compared. Pathway analyses were performed for the unique 'SNP genes' and 'expression genes' involved in the significant associations.

**Results:** A larger number of cis-associations compared to trans were observed for the BC survivors using the full data set (24,035 vs 1,980, respectively, FDR <0.05). The genes were enriched for immune system-related processes. The expression of human leukocyte antigen genes was found associated with SNPs in 122 genes, in which the majority was located in the major histocompatibility locus I-II. The comparison analyses with healthy women revealed associations between 2,016 'SNP genes' and 847 'expression genes' in cis and 185 'SNP genes' and 145 'expression genes' in trans, which occurred specifically in BC survivors, and the cis-genes showed enrichment for immune system processes.

**Conclusions:** The results suggest that the immune system has a different constitution in BC survivors years after completed therapy, compared to healthy women. Expression of HLA genes in MHC class I and II in these BC survivors were associated with SNPs in 122 genes, in which the majority is located in the MHC locus on chromosome 6.

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### Triple Negative Breast Cancer: Perceptions of Prognosis, Psychological Impact and Care Needs

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**Background:** This longitudinal qualitative study explores changes in perception of diagnosis, prognosis, emotional distress (ED) and support needs over time in a cohort of women with triple negative breast cancer (TNBC) and a comparator receptor positive population.

**Materials and Methods:** Participants were recruited from two London cancer centres. In-depth, semi-structured, audio-taped interviews were conducted at the start (T1) and end (T2) of chemotherapy/radiotherapy treatment. Transcribed interviews were coded and analysed using Framework Analysis to identify individual and between-group differences at T1, and changes between T1 and T2.

**Results:** Ten women with TNBC were interviewed at T1, and 9 at T2 (one withdrew). Ten women were interviewed in the comparator group at T1 and T2. Interviews showed that women understand the relationship between receptor status and treatment options, but do not think about potential implications of this for prognosis. ED was not linked to receptor status at either time point. The major contributor to ED at T1 was potential negative impact of the disease and treatment on their lives. At T2 fear