mass index, excised volume, tumor location, operation procedure, diabetes adjuvant therapy etc.

Results: The overall incidence of fat necrosis in this study was 23.9 percent (47 of 197). 14 of 197 patients developed palpable mass on physical examination. Ultrasonography and mammography revealed fat necrosis 45 and 9 cases of 197 patients, respectively. 5 cases of 47 patients with fat necrosis were performed MRI and showed compatible result for fat necrosis. In 16 patients with fat necrosis, histologic confirmation is performed in order to exclude recurrent malignancy. FNA was used in 12 cases, core biopsy in 3 cases and excisional biopsy in 1cases. Tumor location or operation procedure and fat necrosis have no significant association. The incidence of fat necrosis was significantly associated with age and BMI.

Conclusions: The incidence of fat necrosis after oncoplastic BCS is similar to BCS only. Some risk factors (age, BMI) related with the incidence of fat necrosis. In absence of surgical excision, cosmesis rarely affected. Most of patients diagnosed fat necrosis based on the breast imaging, without the need for histologic confirmation. In uncertain cases MRI seems to be helpful but if the clarifying is not completely possible, FNA or biopsy is mandatory. Management is generally expectant observation and rarely requires invasive intervention as most patients are asymptomatic.

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Trend in a Satisfaction Test in Chemotherapy Day Clinic Patients

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Introduction and Objectives: In clinical practice, in a Clinical Oncology Service, the Chemotherapy Day Clinic (CDC) is a growing modality. In our hospital, an annual test by individual telephone interview has been performed to collect information about the level of patients' (pt) satisfaction and areas for improvement. Here we explain the evolution of the data obtained.

Patients and Methods: During the months of May 2007, 2009 and 2011; 201, 318 and 228 pt were studied respectively in the form of CDC. Sample under study were considered valid 100, 120 and 100 tests in each year, being the main cause of non interviewing those pt who did not answer after 10 phone attempts. Results are expressed as a percentage of response to the response categories for each question, and the results were grouped as a sum of percentage of different categories in order to clarify the areas of improvement. An evolutionary comparison of the various categories of data relating to Clinical Oncology Service has been carried out in order to obtain the trend and the achievement of the goals outlined in the Strategic Plan 2008–2011.

Results: See the table.

		2007	2009	2011	Goal	Trend
Dimension	To increase satisfaction with the treatment provided by medical staff	MS: 97% NS: 100%	MS: 98% NS: 95%	MS: 98% NS: 100%	>95%	=
Information	To increase satisfaction with information provided by sanitary staff	MS: 94% NS: 100%	MS: 88% NS: 96%	MS: 98% NS: 100%	>95%	?
Technical quality	To increase positive valuation and technical means of sanitary profesionals	MS: 100% NS: 95%	MS: 100% NS: 98%	MS: 100% NS: 99%	>95%	=
Privacy	To increase positive valuation of respect of privacy of pt	100%	95%	98%	>95%	=
Clinical effectiveness	To increase positive valuation of improvement of health status	67%	72%	87%	>65%	?
Loyalty	To increase loyalty of patient with the hospital	100%	100%	100%	>95%	=
Global valoration	To increase positive valoration with hospital	97%	100%	100%	>95%	=

MS, Medical staff; NS, Nurse staff.

Conclusion: The satisfaction of pt of Clinical Oncology Service treated in CDC is excellent and stable between 2007 and 2011. Objectives and areas of improvement found in the interview have provided an upward trend in satisfaction of respondents, which demonstrate that it is an effective tool for the detection of requirements and the monitoring of the compliance of objectives in the Hospital Strategic Plan.

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Anthracyclin is Associated with Higher Rates of Grad 3/4 Neutropenia Than Docetaxel When Administered in a Sequential Adjuvant Regimen

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Background: The addition of taxanes to anthracyclin containing adjuvant chemotherapy regimen results in improved outcome, but it is also associated with a substantial increase in neutropenia. Due to inter-individual differences in febrile neutropenia (FN) risks and because most modern adjuvant protocols contain anthracyclines, the attributable FN risk to either one of the two drugs is difficult to assess. Therefore we have compared neutropenia rates in 86 patients who received sequential anthracyclines and taxanes.

Material and Methods: A retrospective chart review was performed of 86 patients who had received 4 cycles Epirubicin 90 mg/m^2 / Cyclophosphamid 600 mg/m^2 (EC) followed by 4 cycles Docetaxel 100 mg/m^2 (Doc) given at 21 d cycles, for early-stage breast cancer at our institution between 2009–2011.

Results: 86 patients (median age 54 yrs, range 25−75 yrs) received a total of 660 cycles − 344 cycles EC and 316 Doc. During 366 (55%) cycles the patients received G-CSF prophylaxis with pegfilgrastim, during 166 (27%) cycles the patients received filgrastim for secondary prophylaxis or treatment and during 113 (17%) cycles there was no G-CSF used. Altogether Grade 3/4 neutropenia developed significantly more common in 111 of 344 (32%) EC cycles, than in 68 of 316 (22%) Doc cycles ($p = 0.0021$, Fisher's exact test). The group of patients which received pegfilgrastim prophylaxis developed significantly more grad 3/4 neutropenia: in EC 32 of 169 (19%) cycles, in Doc 19 of 198 (10%) cycles ($p = 0.0105$, Fisher's exact test). The overall incidence of FN was 0.6%, with 2 cases observed during EC (1%) and 2 cases during Doc (1%) treatment. One FN occured in those given no G-CSF prophylaxis and 3 occured in those given pegfilgrastim prophylaxis. Dose reduction as a consequence of neutropenia was necessary in 4 cycles during EC and 10 cycles during Doc. Altogether 11 patients weren't able to complete their planned chemotherapy. No EC cycle and 26 Doc cycles were deleted.

Conclusions: The use of G-CSF is associated with a low rate of grade 3/4 neutropenias and FN. Contrary to common perception, in a direct sequential comparison, in patients who have received both EC and Doc in a sequential fashion, EC leads to significantly more grade 3/4 neutropenia than Doc.

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Prospective Assessment of Loss of Grip Strength by Baseline BMI in Breast Cancer Patients Receiving Adjuvant Aromatase Inhibitors or Tamoxifen

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Background: The 3rd generation aromatase inhibitors (AIs) induce or enhance musculoskeletal problems. Underlying mechanisms are probably multiple, but remain unknown. We have previously reported that loss of grip strength together with tenosynovial abnormalities are more important in AI- than in tamoxifen-users *(Morales et al., JCO 2008)* and that musculoskeletal changes in AI-users are more pronounced in women with extremes in baseline BMI *(Lintermans et al, Ann Oncol 2011)*. We here report preliminary results from a larger population and plan to validate findings in patients from Michigan University.

Patients and Methods: In this prospective observational study, postmenopausal early breast cancer patients scheduled to start adjuvant hormonal therapy with any of the third generation AIs or tamoxifen were recruited. After providing informed consent, a functional assessment test of grip strength was performed with a modified sphygmomanometer. Re-evaluation was done after 3, 6 and 12 months of therapy. BMI and waist to hip ratio were assessed and a rheumatological questionnaire was completed at each visit. Power calculation indicated a sample size of 100 patients in each of the arms (AI and tamoxifen).

Results: Hundred twenty-nine patients on an AI and 34 patients on tamoxifen were included in this on-going study. Twenty-one patients (17%)

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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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 of 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 univariat analysis., multivariant logistic regression analysis.

Results: The most common morbility one month after the surgery is the limitation of mobility (18%), the pain is the most prevalent syntom 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 multivariat 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. Morbility risk analisis 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-III. 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