analysis showed no relationship between cosmetic result and age (p>0.13).

Conclusion: Our experiences is limited to a low number of cases but confirm that adjuvant radiotherapy is not controindicated when reconstructive surgery is expected. The patient must be informed about the possible radiation sequelae.

EP-1168

Phase II trial of hypofractionated VMAT treatment for early stage breast cancer: 2-years outcomes

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Purpose or Objective: To report 2-years toxicity and clinical results of hypofractionated simultaneous integrated boost (SIB) tecnique with Volumetric Modulated Arc Therapy (VMAT) as adjuvant treatment after breast-conserving surgery.

Material and Methods: Patients presenting early-stage breast cancer were enrolled in a phase II trial. Eligibility criteria: age>18 years, invasive cancer or DCIS, Stage I-II (T<3 cm and N≤3), breast-conserving surgery without oncoplastic reconstruction, any systemic therapy was allowed in neoadjuvant or adjuvant setting. All patients underwent VMAT-SIB technique to irradiate the whole breast and the tumor bed. Doses to whole breast and surgical bed were 40.5Gy and 48Gy, respectively, delivered in 15 fractions over 3 weeks. Acute and late skin toxicities were recorded based on RTOG scoring criteria and CTCAE v. 4.0, respectively. Cosmetic outcome was assessed as excellent/good or fair/poor, according to the Harvard scale.

Results: The present study focused on long-term results of a cohort of 144 patients with a minimum follow-up of 24 months (median 37, range 24-55 months). Median age was 62 y.o. (range 30-88). At one year, the highest reported skin toxicity was G1, in 14% of the patients; this data dropped to 4% at the last follow-up, after more than 2 years. Breast pain was recorded in 21.6% of the patients 6 months after treatment, while it was present in 3.5% of the patients at the last follow-up, showing a significant improvement with time. No correlation with liponecrosis as recorded from ultrasound exam, nor with dosimetric data. Skin toxicity was correlated with breast volume. No pulmonary or cardiological toxicities were recorded. After an early evaluation of clinical outcomes, only one case presented disease relapse, as liver metastases.

Conclusion: The hypofractionated VMAT-SIB course as adjuvant treatment after breast-conserving surgery showed to be safe and effective with optimal local control. This approach requires validation with long-term follow-up data.

EP-1169

The effect of escalating boost dose in breast cancer patients with involved resection margin

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Purpose or Objective: To investigate the impact of the boost dose escalation on ipsilateral breast tumor recurrence (IBTR), for breast cancer patients with involved surgical margins after breast conserving surgery.

Material and Methods: Between January 1998 and December 2010 at Asan Medical center, among 4275 breast cancer patients who were treated with breast conserving therapy (BCT), a total 192 patients were treated with boost dose over 10 Gy for involved resection margin. We retrospectively analyzed the outcomes in 192 patients who had whole breast irradiation of 50.4 Gy followed by median boost dose 15.0 Gy (range, 12 - 16 Gy) for breast cancer with involved resection margin. Surgery preceded referral for radiotherapy with a 1-2 mm margin of macroscopically normal tissue. The resection margins were evaluated by pathologist for the presence of invasive carcinoma or ductal carcinoma in situ at the inked margin. Neoadjuvant chemotherapy was done in 3 patients (1.6 %). Adjuvant chemotherapy was given in 93 patients (48.4%). 157 patients (81.8%) received systemic hormone therapy. The median age was 46 years (range, 25-73 years). 182 patients (94.8%) were stage 0 to II and 10 patients (5.2%) with stage III breast cancer were also included. The boost dose delivered with electrons or tangential fields given in daily fractions of 1.5 to 2.5 Gy. The boost volume was described as the site of the primary tumor with a margin of 1.5 cm to the field borders after breast conserving surgery.

Results: The median follow-up duration for all patients was 6.7 years. IBTR were considered as any local failures on ipsilateral breast regardless of the location. The 5-year cumulative risk of ipsilateral breast tumor recurrence as a first event was 5.4%. The 5-year local relapse free survival (LRFS) was 94.4%. IBTR occurred as a first failure in 13 of 192 patients. In boost field recurrences were found in 11 patients (85%). 5 patients (39 %) were out-of boost field failures and 3 of them were both failures. On univariate analysis, age, cell type, pT stage, pN stage, extensive intraductal component (EIC), multiplicity and location of resection margin were prognostic factor for IBTR (p <0.05). In multivariate analysis only young age (<40 years old) and positive radial resection margin were unfavorable prognostic factor for LRFS (p =0.037, p=0.021 respectively). pT stage was marginally significant prognostic factor for IBTR. (p=0.088)

Conclusion: Median boost dose of 15 Gy is comparable to historical boost research results for local control in breast cancer patients with involved resection margin after BCT. Young age (<40 years old) and positive radial resection margin rather than superficial or deep margin were important risk factors for ipsilateral breast tumor recurrence. More than 80% of local recurrences were in boost field, more boost dose escalation needs to be considered.

EP-1170

Onset of fatigue during and after radiotherapy in breast cancer patient

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Purpose or Objective: Cancer-related fatigue is one of most prevalent symptom among women submitted to radiotherapy (RT) for breast cancer (BC). Despite its prevalence the mechanism of onset is unknown still: one possible mechanism is activation of the immune system, through the mediation by proinflammatory cytokines interleukin (IL), IL1-b,, IL-6, and tumor necrosis factor-*a* (TNF-*a)* as host response to tissue damage determined by the radiant treatment. To purpose of this study was to determine the level of fatigue in a group of BC patients its relation to anxiety, depression, serum cytokines, cortisol and blood count levels

Material and Methods: Between October 2013 and May 2015 twenty-eight patients who received adjuvant RT after breast conserving surgery were studied. The patients' subjective feeling of fatigue intensity was measured according to with two standardized self-assessment instruments the Fatigue Assessment Questionnaire (FAQ) and a visual analog scale (VAS) on fatigue intensity before the start and weekly during RT, as well as 14 days and 3-6 and 12 months after RT. In addition, a differential blood cell count and the serum levels of the cytokines- IL1-b,, IL-6, and TNF-*a,* were determined in parallel to the fatigue assessments.