Conclusion
High pre-treatment CAC based on planning CT scans is associated with ACE in BC patients treated with postoperative RT, even after correction for confounding factors such as MHD.

OC-0092 Photobiomodulation prevents acute radiodermatitis: final results of a RCT in bre ast cancer patients

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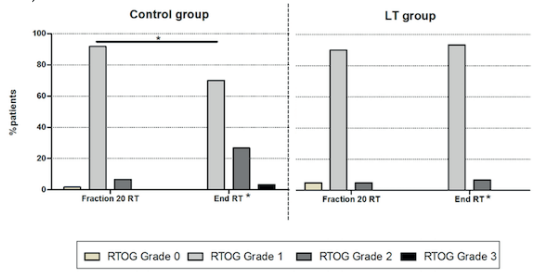
Purpose or Objective
Acute radiodermatitis (RD) occurs in about 95% of the patients undergoing radiotherapy (RT) as part of their cancer treatment. We studied the benefit of photobiomodulation therapy (PBMT) in the prevention of acute RD in breast cancer patients undergoing RT.
Material and Methods
Between April 2015 and June 2017, 120 breast cancer patients undergoing an identical RT regime post-lumpectomy were enrolled in this study. Patients were randomly assigned to the control group (n=60), receiving a placebo treatment (i.e. inactive laser diode) or the laser group (n=60), receiving PBMT. Placebo or PBMT was applied twice a week after the RT session from the first until the last day of RT. All patients were blindfolded during the sessions. PBMT was delivered using a class IV MLS® M6 laser that combines two synchronized laser diodes in the infrared range (808-905 nm) with a fixed energy density (4 J/cm^2). A blinded RT nurse evaluated the patients' skin reactions based on the criteria of the Radiation Therapy Oncology Group (RTOG) at the first day, at fraction 20, and at the end of RT.
Results
In both groups, most patients presented RTOG grade 1 at fraction 20 of RT, with no significant difference in RTOG grades (p= .562) between the groups. In contrast, at the end of RT, the severity of the skin reactions was significantly lower in the laser than in the control group (p= .004). A larger percentage of patients demonstrated RD grade 2 or higher in the control than in the laser group (30% vs. 6.7%, for the control and laser group, resp.). As such, the skin reactions worsened in the control group (p= .008), while in the laser group they stabilized (p= .204) towards the end of RT.



*Severity of radiodermatitis expressed in RTOG grades for the control and laser group at fraction 20 and at the end of RT. *Significant difference within the control group between the two time points and between the two groups at the end of RT ($p<0.05$; x^2 or Fisher's exact tests, two-tailed). RTOG Radiation Therapy Oncology Group; LT: laser therapy*

Conclusion
This is the first, randomized, placebo-controlled clinical trial demonstrating that PBMT based on laser diodes is effective in reducing the incidence of RD grade 2 or higher in breast cancer patients undergoing RT post-lumpectomy.

OC-0093 Give me five-Ultra Hypofractionated RT for localized Prostate Cancer: safety without losing efficacy

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Purpose or Objective
Ultra-Hypofractionated RT is given over a shorter time with larger doses per treatment in patients (pts) with localized Prostate Cancer (PCa). The use of Hypofractionation is supported both from the radiobiological point of view (the low a/b-ratio in PCa and dose escalation) and from the rising number of clinical evidences. The aim of this study is to review our data regarding oncological outcomes (b-PFS and PFS), acute and long term toxicities in pts treated with a short course of RT
Material and Methods
We retrospectively reviewed pts with clinically localized PCa treated primarily with ultra-hypofractionated RT using image-guided IMRT (IG-IMRT). All pts were stratified following NCCN risk groups classification and all categories were included in the analysis. Data on acute and late-term toxicities were collected according to RTOG/EORTC grading system. b-PFS and PFS curves (PFS) were presented. Log-rank tests and Cox proportional hazards models were used to compare curves and identify independent prognostic factors of biochemical recurrence, with adjustment for relevant covariates.
Results
We identified 194 pts treated from 2012 to 2016 with IG-IMRT to total doses of 35 Gy or 32.5 Gy in 5 fractions on alternate days. All risk groups were as follow: 65 (33.5%), 101 (52%), and 28 (14.5%) representing low-, intermediate- and high-risk group, respectively. Median age, pre-RT PSA and GS were 74 yrs (range 51-89), 6 ng/ml (range 2-40 ng/ml), 6 (range 4-9). After a median follow-up of 2.5 years a biochemical relapse was observed in 17 (9%) pts, b-PFS rates at three years stratified for the NCCN risk were respectively: 94%, 82% and 66% for low, median and high risk groups (figure 1). At the time of the analysis 172 pts (89%) are alive with no evidence of disease,5 pts (3%) died, for other causes. Log-rank tests indicate that b-PFS was significantly greater for pts with iPSA greater than 7 (P=0.04), high and intermediate risk groups (P=0.002), low total dose (P=0.02) and GS equal or greater than 7 (P=0.04). No significant association was found with T stage nor ADT. In multivariate analyses total dose and risk groups remained significantly associated with recurrence: we found a significant reduced risk of relapse with a dose of 35 Gy