Impact of HT and cM1 (p=0.018 with HR =0.593 and p=0.006 with HR=2.574, respectively). In the multivariate analysis of LPFS, HT and 2 RT-FLASH had prognostic impact (p=0.039 with HR=0.297 and p=0.036 with HR=0.257, respectively).

Conclusion: In the context of LABC, with poor prognosis, RT-FLASH improves the quality of life, without registration of acute toxicity, and with reasonable OS. HT and the absence of metastasis at diagnosis had a positive impact on prognosis, significantly. LPFS was significantly higher in patients who underwent two RT-FLASH or HT.

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Evaluation of pulmonary acute/subacute toxicity after different techniques of breast radiotherapy
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Purpose or Objective: The increase in the local control and survival of breast cancer patients with postoperative radiotherapy (RT) has been demonstrated by many of randomized trials and metaanalysis. Because of this longer life expectancy; quality of life and minimizing of treatment toxicity have gained importance. More homogenous dose distribution in the treatment field and reduction of side effects is possible with new RT techniques. The aims of our study are to evaluate acute/subacute pulmonary effects and their differences with different RT modalities of postoperative breast RT via pulmonary function tests (PFT) and single photon emission computer tomography (SPECT) based lung perfusion scintigraphy (SLPS), and to exhibit optimum lung dose constraints data for breast cancer RT. Additionally this study enables to detect early pulmonary toxicity in the asymptomatic period and to treat it, if necessary.

Material and Methods: In our study, voluntary breast cancer patients eligible for postoperative radiotherapy (RT), who completed adjuvant systemic chemotherapy were separated equally into two groups of different RT techniques (3D conformal RT (3D-CRT) and intensity-modulated radiotherapy (IMRT)). To assess the acute/subacute pulmonary toxicity, we performed PFT and SLPS just before RT (baseline) and after 3 months of RT (control). After 1 month of RT patients were rechecked with only PFT. We assessed the relation between dosimetric data and the study changes (Figure1).

Results: Mean lung doses and lung volumes receiving ≥20Gy (V1, V5, V10, V20) were significantly higher in IMRT group (p=0.001) (Figure 2). There was no significant difference in PFT changes after RT between the two RT techniques (p=0.05). Higher lung doses (p=0.001) and more significant mean reduction of scintigraphic uptake were observed in low dose volumes with IMRT (p=0.05). In 3D-CRT group, the mean reduction of scintigraphic uptake was higher in the lobe, that receives the highest mean dose (ipsilateral lobe) (p=0.05). Furthermore, even though right supraclavicular area, which effects the upper lung zone was irradiated, frequently the right middle lobe received more radiation, not right upper lobe. Eventually, none of the patients had grade ≥2 LENT-SOMA lung toxicity. We didn’t find any relationship between patient characteristics (smoking history, age, chemotherapy type, surgery type, tumor location, RT field and technique) and radiation induced pulmonary toxicity.

Conclusion: We found that V20 volume of lung is a similar parameter for evaluation of different breast RT techniques and evaluation of low and high dose volumes can be more feasible. Larger group of patients and longer follow-up can lead to more significant results.