Abstract 18.

Background parenchymal enhancement at breast magnetic resonance imaging - Association with tumor response to neoadjuvant chemotherapy

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Abstract

Purpose: Analyze neoadjuvant chemotherapy (NAC) effect on breast MR (BPE). Determine association between BPE changes and tumor response.

Methods and materials: IRB-approved, analytic retrospective study. All had pre-treatment and follow-up 3T MARI studies between December BPE was analyzed on subtraction images and axial and sagittal MIP. Tumors were classified according to histology as invasive ductal carcinoma and grouped by immunohistochemical (IHC) subtype: Luminal A, Luminal B and 8 (HL). Imaging response was evaluated using RECIST 1.1

Results: 40 patients were included, mean age of 47 + 9.9 years, 67.5% were premenopausal. Histopathological analysis revealed 37 cases of IDC, two ILC and one IDC+ILC. IHC assessment showed 12 TN, 10 Luminal A, 10 Luminal B and 8 (HL). There was a global reduction of BPE after NAC in women (Pv= 0.01). TN and HL had higher initial BPE, and postmenopausal patients had an OR of 6.4 for having a mild BPE prior to NAC. 32.5% of patients had complete imaging response. Ap A/B IHC subtype were associated with higher OR for partial tumor response (OR 1.8, 2 y 5.7, respectively), although only IHC subtype reached statistical significance.

Conclusion: Decrease in BPE signal after NAC may be used as a predictive factor of tumor response.