

**Optimizing the Indication for Breast-Conservative Surgery (BCS) in Patients with Locally-Advanced Breast Cancer**

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**Abstract**

*Background:* The main benefit of neoadjuvant chemotherapy is a reduction in tumor size, which allows breast-conserving surgery (BCS) in patients who otherwise would have required a mastectomy. Breast magnetic resonance (MRI) has been proposed to evaluate tumor extent after neoadjuvant chemotherapy, to determine which patients have become eligible for BCS.

*Aim:* The aim of our study was to determine how the association of breast MRI to routine clinical and radiologic assessment of the tumor at initial presentation, and after chemotherapy, affects the overall surgical decision process.

*Material and Methods:* 54 women with stage IIB-IIIB breast cancer were prospectively enrolled in a study investigating the effects of MRI on the surgical decision.

*Results:* Surgical plan was changed from BCS to radical mastectomy in 6 cases (13.04%). As a result of using MRI in evaluating disease extent, 21.73% of valuable data were added by MRI (pectoralis major muscle and skin invasion, multifocal /multicentric disease). Due to MRI examination 28 (60.86%) of the patients with operable breast cancer after neoadjuvant chemotherapy, were eligible for BCS.

*Conclusions:* Our study demonstrates that MRI is the most accurate in determination of tumor size and extent, and in establishing eligibility for BCS.

**Key words:** neoadjuvant chemotherapy, breast cancer, MRI, breast-conserving surgery

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