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Profitieren Patientinnen mit invasivem lobulärem Brustkrebs von einer zusätzlichen präoperativen MR-Mammographie im Vergleich zu der konventionellen Diagnostik mit Mammographie und Ultraschall?

Promotionsfach: Frauenheilkunde

Doktorvater: Prof. Dr. med. Christof Sohn

This study is the largest to date on the subgroup of ILC patients with respect to change in surgical management due to breast MRI. Adequate change in surgical therapy was defined as a benefit for the patient and regarded to be an important outcome parameter.

Breast MRI detected new suspicious findings in 32% of the patients, whereof 7% were additional detected contralateral lesions. Sensitivity of breast MRI for ILC lesions in this study was with 96% significantly higher than sensitivity of mammography (69%) or ultrasound (80%). In addition, breast MRI outperformed mammography and ultrasound in the estimation of disease extent including tumor size estimation, multifocality, multicentricity and skin infiltration. However, it is important to be aware that breast MRI was more likely to overestimate in each category than mammography and ultrasound.

Change in surgical management due to breast MRI accounted for 25% of the ILC patients and thereby benefit (22%) was significantly higher than the overtreatment (3%) ( $p < 0.0001$ ). In addition, this study showed in a subset analysis that ILC patients with higher pT-stage tumors were more likely to benefit from a supplementary preoperative MRI compared to patients with lower pT-stage tumors.

This study reports a primary mastectomy rate of 38% and a secondary surgery rate of 19% lying both in the range of reported rates for ILC patients in the literature. However, the rate of bilateral surgery in this study was higher compared to bilateral surgery rates described for ILC patients without preoperative MRI.

The impact of additional lesions and adequate change of surgical treatment due to breast MRI on patient outcome is controversially discussed. On the one hand, there is the assumption that most additional lesions can be erased by adjuvant radio- and chemotherapy. On the other hand, one may suggest that ILC patients benefit from the detection of new malignant lesions resulting in an adequate change in surgical therapy as it is not possible to predict which lesions will respond to radio- and/or chemotherapy and which will not. This is of special importance in the case of contralateral lesions.

Prospective randomized trials are under the way in order to show if the improved sensitivity and better assessment of tumor extent by breast MRI compared to conventional imaging can reduce the recurrence rate and maybe even improve survival rates in patients with ILC, but until then clinicians have to decide based on indirect evidence.

Conclusions for clinical practice:

These results (detection of new, especially contralateral lesions, adequate change in surgical management, overtreatment unlikely) confirm the importance of preoperative breast MRI in the clinical management of ILC patients.

In order to minimize harm, all additional detected lesions by breast MRI should be biopsied before any change in surgical management is performed. If there are uncertainties about tumor size estimation a second look mammography or ultrasound should be performed.

Patients should be well informed about the potential advantages and risks of breast MRI.