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Titel des Beitrags: Clinical and diagnostic value of preoperative MR mammography and FDG-PET in suspicious breast lesions.

Abstract: Dynamic enhanced magnetic resonance (MR) mammography and fluorine-18 fluorodeoxyglucose positron emission tomography (FDG-PET) of the breast were directly compared preoperatively in suspicious breast lesions. Forty-two breast lesions in 40 patients were examined with a three-dimensional dynamic MR imaging series and FDG-PET. The MR and PET examinations were evaluated separately and the results were compared with the histological findings. The sensitivity and specificity of each method were calculated. The diagnostic value of both modalities as single diagnostic tool and in combination was investigated. Nineteen malignant and 23 benign breast lesions were proven histologically. Magnetic resonance mammography and FDG-PET showed a sensitivity of 89 and 63%, respectively. The specificity was 74 and 91%, respectively. The combination of both imaging methods decreased the not-required biopsies from 55 to 17%. Only one false-negative finding—a patient pre-treated with chemotherapy—was observed in both methods. The combination of MR mammography and FDG-PET can help to decrease biopsies of benign breast lesions. Because of their high cost, these modalities should only be used in problematic cases to either rule out or to demonstrate malignancy. The best diagnostic strategy is achieved using MR mammography first. If the
diagnosis is still questionable, FDG-PET can be performed.