
Astate of the art of mr imging of benign and malignant breast lesions

Osama Mostafa El-Ashrei

This thesis included the study of the role of magnetic resonance imaging (MRI) examination in the detection and characterization of malignant tumors of the breast. The review of literature enclosed the anatomical background of the breast as well as the pathologic bases of the benign and malignant breast tumors. The indications of MRI examination of the breast and the MRI appearance of malignant breast tumors were also revised. The practical work included the MRI examination of 20 cases, presenting with breast lesions suspicious for malignancy using double breast coil. The examination protocol included the rapid dynamic imaging within the first ten minutes after I.V. injection of gadolinium contrast agent. The MRI examination was preceded by clinical evaluation of the cases as well as mammographic and sonographic examination. The results of this study showed the value of MRI in increasing detectability of malignant breast lesions especially in cases of mammographically dense breasts and recurrent breast tumors as well as the detection of multicentricity and breast tumors located near the chest wall. The thesis showed also the value of delayed imaging after gadolinium injection in differentiation between benign and malignant breast tumors on the basis of different morphological and quantitative signs.