

Diagnostic value of MRI optimized protocols in evaluation of BI-RADS category 0 lesions detected by conventional imaging

Crivcianschi Maxim

Department of Radiology and Imaging, Nicolae Testemitsanu State University of Medicine and Pharmacy

Chisinau, the Republic of Moldova

Corresponding author: maxkriv@yahoo.com

Background: Due to its higher sensitivity, breast magnetic resonance imaging (MRI) is increasingly being used to evaluate a variety of breast lesions when the results of conventional methods are inconclusive. The aim of this study was to assess the diagnostic value of breast MRI optimized acquisition protocols in the assessment of suspicious lesions rated as BI-RADS category 0 on previous mammography and/or breast ultrasound exam.

Material and methods: The study included a total of 214 suspicious lesions referred for breast MRI evaluation in the period 10.2015 – 02.2018. All lesions had been rated as BI-RADS category 0 on previous mammography and/or breast ultrasound exam. The MRI results were correlated with the final diagnosis and histopathology findings when available.

Results: A total of 214 lesions were restaged by MRI optimized protocols from BI-RADS 0 to the following categories: I – 35 lesions (16.4%), II – 24 lesions (11.2%), III – 75 lesions (35.0%), IV – 64 lesions (29.9%), V – 13 lesions (7.5%). BI-RADS category III lesions were recommended a short-term follow-up MRI at intervals of 6, 12, and 24 months. All BI-RADS IV and V lesions underwent biopsy, which revealed that 28.1% (18/64) BI RADS IV lesions were malignant and 71.9% (46/64) were benign, while 84.6% (11/13) BI RADS V lesions were malignant and 15.4% (2/13) were benign.

Conclusions: Breast MRI optimized protocols provide relevant additional details for evaluation of BI-RADS 0 lesions, significantly improving cancer detection rate.

Key words: breast MRI, optimized protocols, BI-RADS category 0 lesions.