THE ROLE OF MRI ON CANCER DETECTION AND MANAGEMENT: THE SAUDI ARABIAN EXPERIENCE

Aldabbagh A.

King Abdulaziz University Hospital, Jeddah, KSA

Corresponding Author:
Prof. Dr. Asma Aldabbagh
Professor and Consultant in Radiology, Radiology Department
Faculty of Medicine & Allied Sciences, King Abdulaziz University Hospital
P.O. Box 80215, Jeddah 21589, Kingdom of Saudi Arabia

Introduction

MRI is increasingly being used as a problem solving tool; Examination timing, indications, and technique are critical to its success. It is particularly useful in mammographically-dense breasts, patients presenting with abnormal axillary nodes, the post-operated breast and to monitor neoadjuvant therapy response. It has also been recommended for screening high risk patients.

Disease Epidemiology

Breast Cancer in Saudi Arabia is the most common cancer in women. National screening is as yet not implemented. Most women usually come because of symptoms. Many of the cancers discovered are at an advanced stage.

Screening Methods Overview

Although mammography remains the primary imaging modality for the detection and evaluation of breast cancer, additional imaging is usually required to further stage the disease so that preoperative or other management strategies are planned. MRI is superior to other modalities in the detection of occult disease in the same or contralateral breast. MRI is also superior than other breast imaging modalities in the evaluation of the post operative breasts, monitoring neoadjuvant chemotherapeutic response and in the assessment of high risk patients.
In our hospital, 1226 patients had breast MRI examinations. 406 patients were thought to have malignant lesions based on MRI findings. 298 cases were histopathologically proven malignancies. Of the proven malignant cases, 28 patients gave a family history of breast cancer. 71 patients continued their investigations elsewhere and histopathology results were not available. 35 cases were false positive. Only 2 cases were false negative. Breast cancer recurrence was diagnosed by MRI in 42 patients, 8 of those were histopathologically negative for malignancy. Only a few patients were monitored by MRI during the course of their Neoadjuvant therapy.

Outcome and Recommendations

• Contrast-enhanced MRI has a high sensitivity and a high negative predictive value for the detection of invasive breast cancer.
• It is superior to mammography and sonography for the detection of recurrence.
• Breast MRI should be interpreted in conjunction with other breast imaging modalities.
• Patients' history with dates of previous treatments should be given.
• As with mammography, previous MRI studies availability is helpful.
• It is also logical that lesions found only on MRI are biopsied under MRI guidance, a situation which is difficult to undertake in most hospitals if a dedicated breast MRI unit is not available.
• MRI should be used to screen high risk patients.
• MRI has made a significant impact on breast cancer detection and management in our practice.

References

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