Monitoring and follow-up of BIRADS 3 breast lesions in patients with breast cancer: A luxury or a necessity?

Abstract:

INTRODUCTION :

Category 3 breast lesions according to the Breast Imaging-Reporting and Data System (BI-RADS®) developed by the American College of Radiology (ACR 3, or BI-RADS® 3) have well-defined characteristics and do not apply to atypical images or those that are difficult to interpret.

The Haute Autorité de Santé (French National Authority for Health) recommends that all lesions classified as ACR3 during the pre-treatment assessment of breast cancer should be biopsied. This recommendation is easily applicable to ACR3 lesions detected by mammography or ultrasound.

OBJECTIVE:

The objective of our study was to evaluate the malignancy rate of ACR3 lesions detected on pre-treatment breast ultrasound or MRI, for the assessment or monitoring of patients with breast cancer.

MATERIALS AND METHODS:

A retrospective observational study was conducted between the Mohammed VI Cancer Treatment Centre, the Gynaecological Oncology Department of the same centre and the Radiology Department of the Ibn Rochd Hospital Centre between January 2021 and December 2023.

From the medical records, we identified 53 patients with ACR3 lesions visible on pre-treatment, evaluation or surveillance echo-mammography. We analysed: the radiological characteristics of the lesions, the rate of second-look ultrasound, the pathology results, the rate of collegial decision-making, the type of treatment and the number of biopsies performed during the follow-up period.

RESULTS:

Among the 53 patients who underwent follow-up echomammography or breast MRI, the cumulative incidence of reclassification of ACR3 lesions was 14.9% (95% confidence interval [CI] [8.9; 24.2]) after 6 months of surveillance, 38.2% (95% CI [28.9; 49.4]) after 1 year, and 94.1% (95% CI [87.1; 1.98]) after 2 years.

The median follow-up (all imaging modalities combined) was 24 months. Twelve cancers were diagnosed.

The malignancy rate of ACR3 lesions detected in patients with breast cancer was 2% at 6 months and 2.5% at 24 months.

CONCLUSION :

It is now clearly established that the benefits of surveillance far out weigh the risks and inconveniences of invasive approach from the outset or of trivializing these lesions.

Given the very high proportion of benign lesions in the ACR3 category, monitoring them remains a major necessity.

This monitoring proposal remains highly beneficial for cancer patients under the above-mentioned conditions and could be validated by a larger prospective, multicentre study.

Key words : Breast cancer, Classification BIRADS, Follow up, echomammography, breast MRI

INTRODUCTION:

Category 3 breast lesions according to the Breast Imaging Reporting and Data System (BI RADS®) developed by the American College of Radiology (ACR 3, or BI-RADS® 3) have well-defined characteristics and do not apply to atypical images or difficult to interpret [1].

This category includes abnormalities that are probably benign and for which short-term surveillance is recommended. The Haute Autorité de Santé (French National Authority for Health) recommends that all lesions classified as ACR3 during the pre-treatment assessment of breast cancer be biopsied. This recommendation is easily applicable for lesions classified as ACR3 detected by mammography or Ultrasound [2].

The objective of our study was to evaluate the malignancy rate of lesions classified as ACR3 detected by pre-treatment breast ultrasound or MRI for the evaluation or monitoring of patients with breast cancer.

MATERIALS AND METHODS:

A retrospective observational study was conducted between the Mohammed VI Cancer

Treatment Centre, the Gynaecological Oncology Department of the same centre and the Radiology Department of the Ibn Rochd Hospital Centre between January 2021 and December 2023.

From the medical records, we identified 53 patients with ACR3 lesions visible on pre-treatment, evaluation or surveillance echo-mammography. We analysed: the radiological characteristics of the lesions, the rate of second-look ultrasound, the pathology results, the rate of collegial decision-making, the type of treatment and the number of biopsies performed during the follow-up period.

Table 1: Characteristics of patients included in the study

Type of study	A study observational and descriptive study
Number of patients included in the study	Fifty-three patients followed at the Mohamed VI Center for Cancer Treatment had breast cancer, with ACR3 lesions visible on pre-therapeutic, evaluation or surveillance mammography and/or breast MRI.
Median age	49 years old
Location	the Mohammed VI Center for Cancer Treatment, the Gynecology-Oncology Department of the same Center and the Radiology Department of the Mohammed VI Center for Cancer Treatment. Ibn Rochd Hospital
Period	January 2021 and December 2023
Protocol	We studied the radiological characteristics of the lesions, the rate of second-look ultrasound, pathology results, the rate of collegial decision-making, the type of treatment and the number of biopsies performed during the follow-up period.

RESULTS:

Among the 53 patients who underwent follow-up echomammography or breast MRI, the cumulative incidence of reclassification of ACR3 lesions was 14.9% (95% confidence interval [CI] [8.9; 24.2]) after 6 months of surveillance, 38.2% (95% CI [28.9; 49.4]) after 1 year, and 94.1% (95% CI [87.1; 1.98]) after 2 years.

The median follow-up (all imaging modalities combined) was 24 months. Twelve cancers were diagnosed.

The malignancy rate of ACR3 lesions detected in patients with breast cancer was 2% at 6 months and 2.5% at 24 months.

Figure 2: Professional and expert team of radiologists at the Ibn Rochd Hospital

DISCUSSION

According to several studies and recommendations [3,4,5], this consensus-based monitoring involves three examinations: the first and second by mammography at 6 and then 12 months, and the third by bilateral mammography at 24 months. At the end of the

two-year monitoring period, if there has been no change, the abnormality may be reclassified as ACR 2. However, if the abnormality changes during a monitoring examination, it must be reclassified as ACR 4 or ACR 5, leading to percutaneous sampling for histological verification.

It is now clearly established that the benefits of surveillance far out weigh the risks and inconveniences of invasive approach from the outset or of trivializing these lesions.

Given the very high proportion of benign lesions in the ACR3 category, monitoring them remains a major necessity.

CONCLUSION :

This monitoring proposal remains highly beneficial for cancer patients under the above-mentioned conditions and could be validated by a larger prospective, multicenter study.

References:

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