

Phyllodes Breast Tumors: Experience of the Mother and Child Radiology Department at Hassan II University Hospital of Fes, and Literature Review.

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Abstract : *Phyllodes tumor is a rare breast tumor, accounting for less than 1% of all primary tumors. The aim of this study is to investigate, through the analysis of our results and a literature review, the usefulness of different imaging modalities in the positive diagnosis and follow-up of phyllodes tumors. This is a retrospective study conducted at the Mother and Child Radiology Department at Hassan II Hospital in Fes, spanning over a period of 5 years. Mammographic exploration, in the majority of cases, revealed a roughly oval, well-defined opacity with often regular contours. Breast ultrasound allowed the visualization of a tissue mass, establishment of the BI-RADS ACR classification, and guidance for microbiopsies. Phyllodes tumors primarily affect young women. Imaging remains essential for positive diagnosis and monitoring. Confirming the diagnosis necessitates histological evidence. The most appropriate management of this tumor remains adequate surgical resection with clear margins, while emphasizing the importance of surveillance as the risk of recurrence is always present.*

Keywords: Phyllodes tumor - Echomammography - BI-RADS ACR.

INTRODUCTION:

Phyllodes breast tumors are rare fibroepithelial tumors resembling fibroadenomas. They consist of a predominant stromal connective tissue component and a foliated epithelial component. Phyllodes tumors represent less than 1% of all primary breast tumors and account for 2% to 3% of fibroepithelial neoplasms. Their diagnosis is mainly histological. Surgery is the cornerstone of treatment for phyllodes tumors. Phyllodes tumors have an excellent survival prognosis, but regardless of their grades, they may locally recur, sometimes with a more unfavorable histological grade than the primary lesion. The objective of this study is to investigate, through the analysis of our results and a literature review, the usefulness of different imaging modalities in the positive diagnosis and follow-up of phyllodes tumors.

MATERIALS AND METHODS:

This is a retrospective descriptive monocentric study, conducted at the Mother and Child Radiology Department, Hassan II University Hospital of Fes, involving 20 patients with phyllodes tumors who underwent imaging at the same department over a period of 5 years, from January 2015 to the end of December 2020.

RESULTS:

We collected 20 cases of phyllodes tumors diagnosed in our institution. Fifteen of our patients presented with a fortuitous discovery of a nodule during self-palpation, while the other 5 patients presented with mastodynia. After breast examination, the patients were referred to our department for echomammography.

Mammography was performed in 14 patients over the age of 35, while the others underwent ultrasound alone due to their young age. Mammography consisted of frontal and oblique external images at 60°. We observed a roughly oval opacity with regular or polylobed contours in 13 patients. (Figure 2)

Breast ultrasound:

In our study, breast ultrasound was performed in all patients, revealing a tissue mass with echographic characteristics consistent with those of mammography: Oval mass with regular or polylobed contours, with the long axis parallel to the skin, hypoechoic, classified as BIRADS 3 or 4a according to the ACR classification. (Figure 1-3)

BI-RADS ACR	Cases
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ACR3	5
ACR4a	15

Figure 1: BI-RADS Classification of Phyllodes Tumors by the ACR.

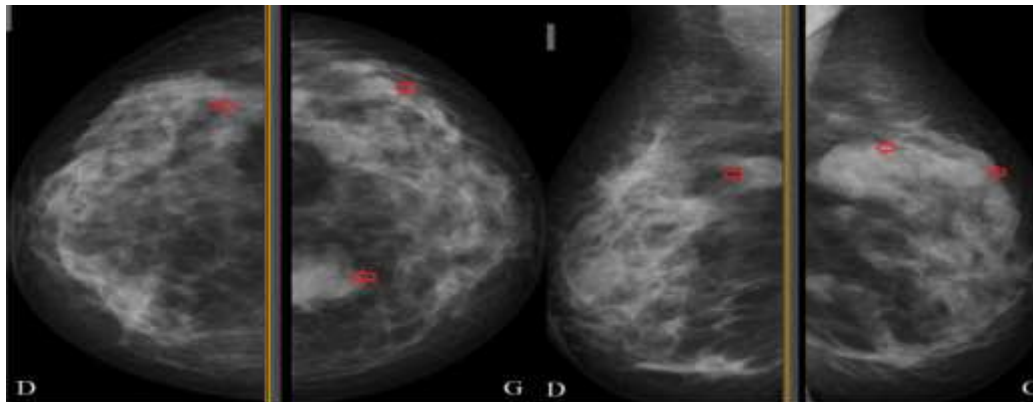


Figure 2: Mammography of both breasts, frontal and oblique views, showing multiple well-defined rounded and oval opacities distributed in various quadrants of both breasts (red arrows).

Reference: Mother and Child Radiology Department, Hassan II University Hospital of Fes.

MRI:

None of our patients underwent breast MRI.

Ultrasound-guided core biopsy:

All our patients underwent an ultrasound-guided core biopsy in our department. Those with lesions classified as BI-RADS 3 received histological evidence due to family history.

Follow-up assessment:

Among the radiological follow-up modalities, a radiological control was performed after 6 months to reevaluate the semiological characteristics of the lesions present on the previous imaging, detect new lesions, and monitor operated patients.

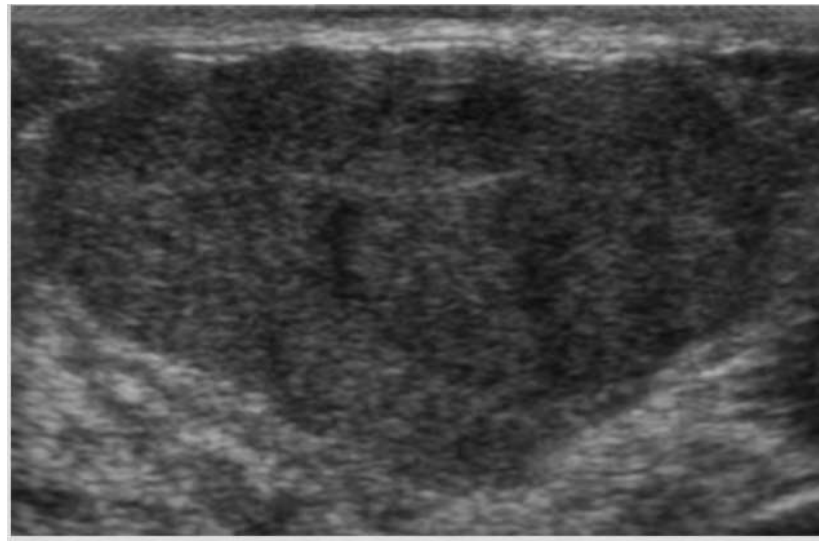


Figure 3: Ultrasound image of one of our patients showing a tissue lesion in the upper outer quadrant (QSI) of the right breast, oval in shape, with the long axis parallel to the skin and macrolobulated contours, classified as ACR4a.
Reference: Mother and Child Radiology Department, Hassan II University Hospital of Fes.

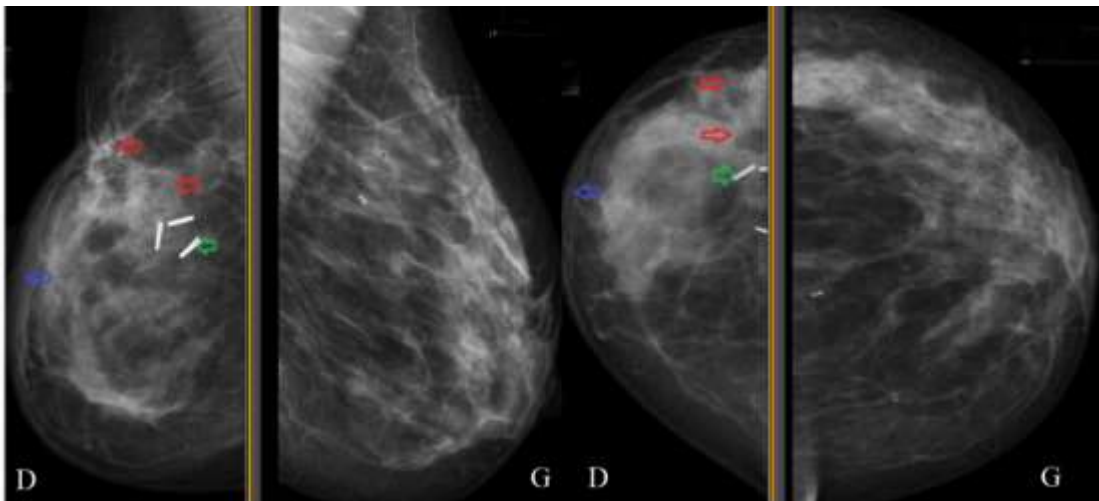


Figure 4: Mammography of both breasts, frontal and oblique views, of a patient who underwent a wide right-sided tumorectomy: Area of architectural distortion (red arrows) with surgical clips within the breast (green arrows), and thickening of the skin overlaying the area.
Reference: Mother and Child Radiology Department, Hassan II University Hospital of Fes.

DISCUSSION:

Phyllodes tumors are rare fibroepithelial breast tumors, accounting for only 1% of all breast tumors. They are more common in women of reproductive age, with a peak incidence between 35 and 55 years old [1].

Their main differential diagnosis is fibroadenoma. Radiological signs are not specific, and imaging alone cannot establish the differential diagnosis.

Mammography is a fundamental radiological examination. It is easier to interpret the breast of an older woman than that of a young woman due to the involution of adipose tissue, which makes the breast less dense [2,3,4].

Mammographic images are classified based on the degree of suspicion of their pathological nature. The current classification system used is the BI-RADS classification by the ACR [5]. Frontal and oblique images are obtained, and a careful analysis of these images

allows for the study of the lesion and its relationship with surrounding tissues, the presence or absence of microcalcifications, as well as the study of the skin and axillary regions.

Typically, a phyllodes tumor appears as a well-defined oval or polylobulated opacity with regular contours and skin retraction without invasion or stellate extension [6,7]. Mammography can thus suggest the diagnosis of a phyllodes tumor if the appearance is typical. However, it does not allow for the prediction of its histological type.

In breast ultrasound, the most frequent appearance is a heterogeneous, rounded, lobulated formation with generally regular contours.

MRI is rarely used in this context, and therefore, the number of phyllodes tumors of the breast described on MRI remains limited.

Regarding treatment, surgery represents the standard approach. Wide local excision with a safety margin is indicated for grade 1 and 2 tumors [8]. Mastectomy without lymph node dissection is performed for grade 3 tumors. Phyllodes tumors are considered benign; however, the risk of local recurrence is high.

CONCLUSION:

Phyllodes tumors are rare tumors, accounting for 1% of all breast tumors and 2% to 3% of fibroepithelial breast tumors. Imaging suggests the diagnosis of a phyllodes tumor and guides the biopsy for histological examination. Close clinical and radiological follow-up every 6 months is necessary due to the frequent occurrence of local recurrences during the first two years following surgery.

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