

Metaplastic Breast Carcinoma: Clinical and Imaging Features

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Image Article

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Abstract

Metaplastic breast carcinoma is a very infrequent type of malignancy (<1% of invasive breast tumors), of poor prognosis and of high histological grade. It is due to a metaplasia of the breast glandular epithelium. There are several types, among which squamous cell carcinoma is the most frequent. The age of presentation is usually in women older than 50 years who report a fast growing tumor. Radiologically they are usually well circumscribed lesions, and if they are of a large volume they can be complicated, with ulceration or fixation to the skin or even to the chest wall. They have a worse prognosis than patients with infiltrating ductal or lobular carcinoma, with an incidence of metastatic disease between 5-30%. We present the case of a 50 years old woman with a palpable mass in the left breast, ulcerated. We show the characteristics of this entity in the different imaging techniques. Finally, an ultrasound biopsy confirmed the diagnosis of metaplastic breast carcinoma.

Keywords: Metaplastic Breast; Tumors; Hyperechogenic; Metaplastic Carcinoma

Abbreviation: PET-CT: Positron Emission Tomography-Computed Tomography.

Case Report

A 50-year-old woman was addressed to the Gynecology department for palpable mass in the left breast. Physical examination shows a mass of

approximately 10 cm that affects the entire breast, with areas of ulceration (Figure 1).



Figure 1: Ulcerated mass in left breast.

Mammography and ultrasound exams were performed, and confirmed a solid mass of 10 x 9 x 7 cm, with well-defined limits and good ultrasound

transmission (Figure 2). It presents hyperechogenic points inside, which translates the presence of micro calcifications.

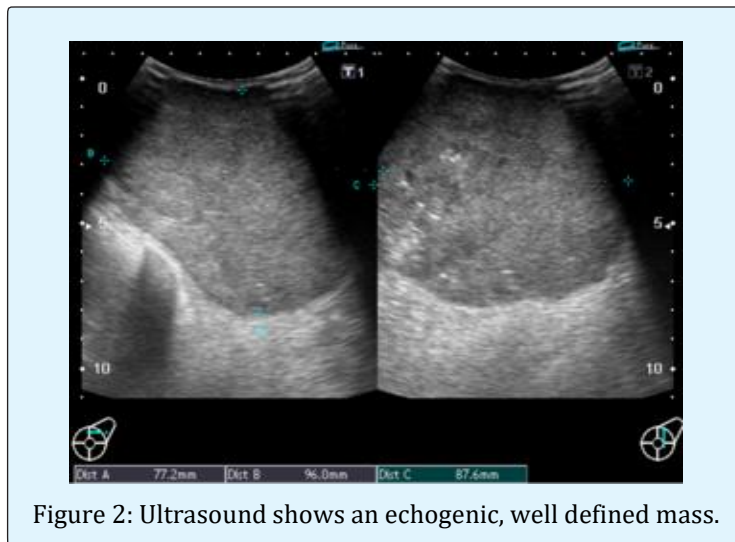


Figure 2: Ultrasound shows an echogenic, well defined mass.

BAG was performed with ultrasound control, with a histological result of breast metaplastic carcinoma. As an extension study, magnetic resonance (not shown) and

PET-CT (Figure 3) were performed, showing the presence of mass with peripheral enhancement.

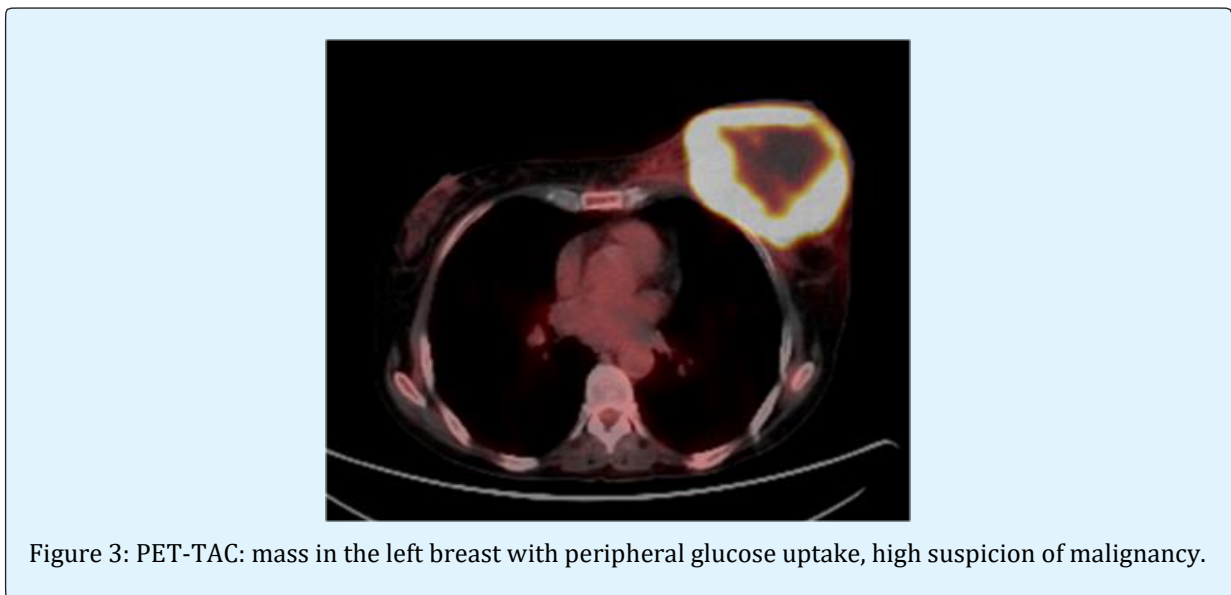


Figure 3: PET-TAC: mass in the left breast with peripheral glucose uptake, high suspicion of malignancy.

Discussion

Metaplastic breast carcinoma is a very infrequent type of malignancy (<1% of invasive breast tumors), of poor prognosis and of high histological grade [1,2]. It is due to a metaplasia of the breast glandular epithelium, although generally are a complex admixture of carcinomatous and

metaplastic areas [3]. It was officially recognized as a distinct pathologic diagnosis only in 2000 [2]. Histologically, this cancer is characterized by divergent cellular differentiation and heterogeneous cells, including squamous, spindled, sarcomatoid, pleomorphic, chondroid and osseous differentiation, among which squamous cell carcinoma is the most frequent [4].

The etiology of metaplastic breast carcinoma is unclear. The majority of cases are sporadic without familiar aggregation [3]. The age of presentation is usually in women older than 50 years who report a fast growing tumor. Radiologically they are usually well circumscribed lesions, and if they are of a large volume they can be complicated, with ulceration or fixation to the skin or even to the chest wall [5,6]. They have a worse prognosis than patients with infiltrating ductal or lobular carcinoma, with an incidence of metastatic disease between 5-30%. It is due frequently associated with other poor prognostic indicators being mostly negative for hormone receptors and Her2/neu overexpression. Its outcome has been reported worse compared with invasive ductal carcinoma or triple negative ductal carcinoma. In addition, patients with metaplastic breast carcinoma have a lower rate of pathologic complete response to neoadjuvant chemotherapy [5-7].

Conclusion

Metaplastic carcinoma of the breast, due to its low incidence and its histological variability, presents some controversy in the literature. The clinical presentation and the findings in the image can make the radiologist think of this rare entity, whose treatment and prognosis differ from the rest of invasive carcinomas in the breast.

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