

Invasive Papillary Carcinoma of Male Breast: Case Report

Ghizlane el Mohadab*, Mohammed El Fadli, Rhizlane Belbaraka

Medical Oncology Department, Mohammed VI University Hospital, Marrakech, Morocco

***Corresponding author:**

Ghizlane el Mohadab
Medical Oncology Department
Mohammed VI University Hospital
Marrakech, Morocco
E-mail: elmohadab.ghizlane@gmail.com

ABSTRACT

We report a rare case of invasive papillary carcinoma of the breast in a 41-year-old man. The patient presented with a newly diagnosed symptomatic mass in his left breast of incidental finding. He had no concomitant disease at the time of diagnosis and had never received radiation therapy; he denied a family history of first- or second-degree cancer. Clinical examination showed a fixed mass. Biopsy revealed a solid low-grade intraductal papillary carcinoma with necrosis and a suspected microinvasive focus with high estrogen and progesterone receptor expression (both >80%, ki 67:30%) and HER2 negativity. Mastectomy with axillary curage was performed; histological analysis showed invasive solid papillary carcinoma grade SBR 2; no vascular emboli, tumor size 2.5 cm; pT2, NO, MO, RO. After discussion in an interdisciplinary meeting, adjuvant treatment with sequential chemotherapy, followed by radiotherapy and tamoxifen-type hormonal therapy was indicated. We published this report because of the rarity of this histologic subtype, especially in the male breast cancer population.

Key words: breast cancer, Papillary carcinoma, male

INTRODUCTION

Male breast cancer is a rare disease, with an incidence rate of 0.5% to 1% compared with female breast cancer (1). There is evidence that male breast cancers are more likely to express estrogen receptors (ER) or androgens than female cancers and less likely to overexpress HER2 (2).

The etiology, diagnosis, and treatment of breast cancer in men are similar to those in women.

Papillary carcinomas are a heterogeneous group of breast lesions, ranging from benign to malignant in situ and invasive tumors (3). The term invasive papillary carcinoma (IPC) is reserved for rare invasive breast tumors with more than 90% papillary morphology. The incidence of IPC is low compared to intraductal carcinoma (4), with a better prognosis compared to other breast malignancies (5).

We report an interesting case of papillary invasive breast cancer in a 41-year-old man.

CASE PRESENTATION

A 41-year-old man (*fig. 1*) presented with a newly diagnosed symptomatic

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mass in the left breast. Clinical examination showed a fixed mass 3.2 cm in diameter, non-axillary homo or contralateral ADP.

Mammography and a breast ultrasound (US) showed a solid nodule in the air of the left breast classified as ACR 4 with size 30 *21 *15 mm.

Biopsy of the left breast: low grade papillary ductal carcinoma with necrosis and presence of a suspected microinvasive site.

Immunohistochemistry showed high nuclear expression of estrogen receptor 90%, progesterone receptor 95%, proliferation index 30% and HER2 negative.

A thoracic-abdominopelvic CT scan was performed and showed no abnormalities.

After total excision of the lesion by radical mastectomy with axillary curage. The pathological diagnosis was reported as an invasive papillary carcinoma of grade SBR II;EV- . The tumor measured 2.5 cm (the invasive solid papillary contingent measured 2 cm and the in situ measured 0.5 cm) with free margin. Node removal: 0N+/11N. The tumor was classified as Pt2N0M0. After discussion in interdisciplinary meeting, Given the aggressiveness of male breast cancer, we opted for adjuvant chemotherapy, radiotherapy and tamoxifen (fig. 1).

DISCUSSION

The average age of diagnosis of breast cancer in

men is 67 years, which is approximately 5 to 10 years older than the average age at diagnosis in women (1,4).

In the WHO classification of breast tumors, invasive papillary carcinoma is relegated to the "rare types" class of invasive breast carcinoma, representing less than 1% of all breast cancers (6,2).

A interesting aspect of breast pathology concerns papillary lesions of the breast. Papillary lesions of the breast are a heterogeneous group of neoplasms including benign, atypical, and malignant lesions (*in situ* or invasive) (3).

The incidence of invasive papillary carcinoma is twice as high in men as in women (7).

The Clinical presentation does not differ from other types of BC, the most common symptomatology is a painless mass located in the subareolar region. Other symptoms may include ulceration or retraction of the nipple, nipple discharge, skin thickening, axillary lymphadenopathy and gynecomastia.

Ductal carcinoma in situ is usually present with invasive papillary carcinoma (2).

Papillary breast lesions are classified into: intraductal papilloma, papilloma with atypical ductal hyperplasia (ADH)/ductal carcinoma in situ (DCIS), papillary DCIS, solid papillary carcinoma in situ, solid papillary carcinoma with invasion, invasive solid papillary carcinoma, encapsulated papillary carcinoma and encapsulated papillary carcinoma with invasion (IMPC) (3).

Microscopically, solid papillary carcinomas present

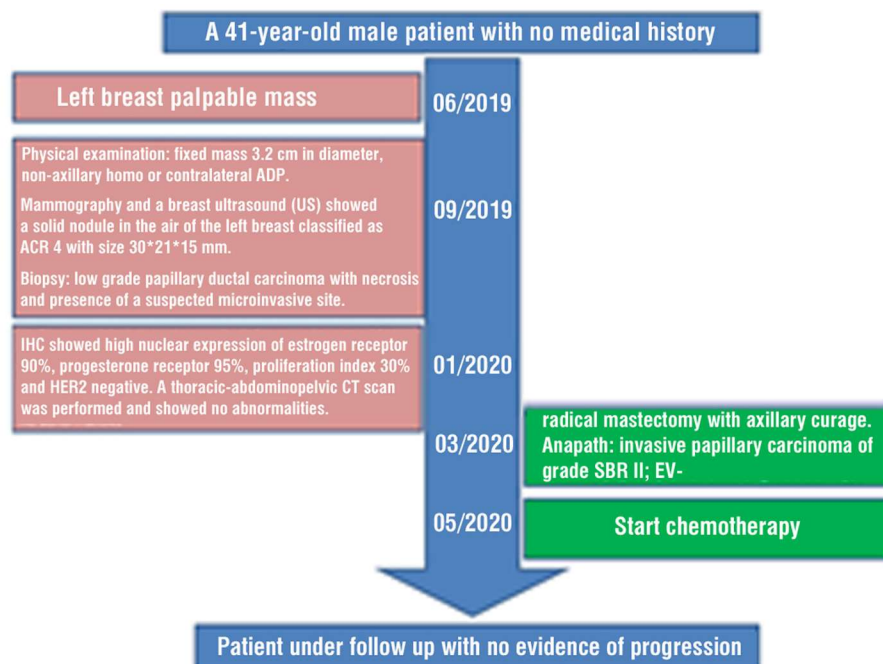


Figure 1 - Timeline of the case report

as multiple solidified circumscribed nodules, and do not show discrete cribriform or papillary architecture on low power view (8). However, the delicate underlying fibrovascular stromal network, lacking a layer of myoepithelial cells, is usually discernible at higher magnification. Neoplastic cells with high cell density appear to be, therefore, mistaken for an intraductal papilloma with florid ductal hyperplasia (9). In case of doubt, the absence of high molecular weight keratin (CK5/6) staining is of diagnostic value. Intracellular and/or extracellular mucin production may be associated.

Pure invasive papillary carcinoma is extremely rare, with a reported incidence of approximately 0.5% of all invasive breast cancers in some series (4,5).

Radiologically, the lesion may be small and occult on mammography and ultrasound with low sensitivity to detect papillary lesions on mammography (10).

Mammographically, lesions may appear as masses of different sizes associated with microcalcifications or not. There are no specific imaging features, but certain characteristics may suggest this lesion; papillary carcinoma is usually seen on mammography as round or oval-shaped lesions. Although they usually have clear margins, lesions may also have obscured margins (11). Rarely, spiculated contours may be seen (12). Coarse, heterogeneous or pleomorphic calcifications may also be seen (12).

Ultrasound is the most sensitive method for papillary lesions and may suggest several lesions such as a homogeneous hypoechoic solid lesion, a complex intracystic lesion, or splay-(13) like masses in dilated ducts (13). SPC may be associated with posterior acoustic enhancement or microcalcifications (14). MRI is sensitive in detecting round or oval masses with well-defined margins, but non-specific (14). The majority of tumors show hyperintensity on T2-weighted images (15).

The approach to men with a suspicious breast mass is similar to that of women and includes mammography, ultrasound and biopsy. In the absence of large clinical trials for male breast cancer, treatment recommendations for radiation, chemotherapy, and HER2 therapy are often extrapolated from those for women. For endocrine therapy, tamoxifen is recommended over aromatase inhibitors (16).

CONCLUSION

Papillary carcinoma of the breast is a rare entity with particular clinicopathological features different

from classical breast carcinoma but with an excellent prognosis. Early diagnosis and adequate treatment give favorable results.

Conflict of interest: none declared.

Ethical statement

The case report was done by following the ethical norms of scientific research and the principles of confidentiality.

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