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Case Report

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Invasive Papillary Carcinoma of the Breast in a Male: Case Report and Review of the Literature

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Abstract

Breast tumors are commonly found in women. Hereby we report a case of invasive papillary carcinoma of the breast in a 65 years old male who presented at our department with 6 months history of left breast pain. Ultrasonographic (US) examination showed a well demarcated nodule measuring 1,8 cm of diameter. A biopsy was performed and the pathological examination revealed an invasive carcinoma not otherwise specified. After discussion the patient underwent modified radical mastectomy, which showed invasive solid papillary carcinoma. The patient has been well on adjuvant chemotherapy without any recurrence for 6 months.

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Introduction

Male breast tumors are extremely rare with less than 1% of all breast cancer cases [1]. Papillary carcinoma of the male represents less than 1% of all breast tumors [2]. The average age at diagnosis is 67 years [3]. The clinical presentation is frequently a painless localized mass in the subareolar region. Other clinical finding include nipple discharge or ulceration, besides axillary lymph node swelling.

AS far as we know, a few cases of invasive solid papillary carcinoma of the male breast have been reported.

The prognosis of this entity is controverted.

Case Presentation

A 65 years old man with history of 45 years of smoking, diabete and hypertension presented at our department with 6 months history of left breast pain. On clinical examination, a firm and sharply demarcated nodule was found in the subareolar region of the left breast. A slightly retracted nipple was noted without ulceration or discharge. There were palpable axillary lymphadenopathies. The patient did not report any family history of breast tumor. Mammogram showed a nodule in the left subareolar region. US analysis 18x13x10 mm solid mass in the same localization. Percutaneaous biopsy was performed and an invasive mammary carcinoma wasreported.The patient underwent modified radical mastectomy with a complete dissection of axillary lymph nodes (Figure.1).

Macroscopically, the excised tumor was 2 x 1,5 x 1 cm in size. The nipple was slightly retracted without skin ulceration (Figure.1). Cut surface showed well defined solid cystic mass.
11 lymph nodes were removed.

Microscopically, the tumor showed an invasive solid papillary carcinoma reported as grade II according to the modified Bloom Richardson without lymph node involvement (Figure. 2&3).

Immunohistochemically, myoepithelial cells were not seen on the invasive component (Figure 4). Tumor cells were strongly positive for estrogen and progesterone receptors.

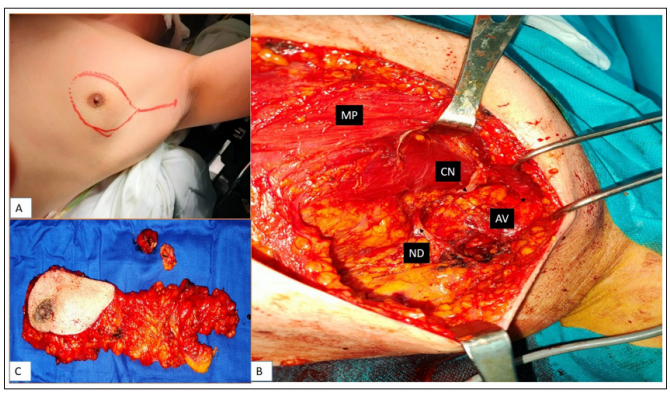

Figure 1: (A) Preoperative position of the Patient. (B) Postoperative view, MP:Major Pectoralis Muscle, CN: Charle-Bel Nerve, AV: Axillary Vein, ND: Nerve of Major Dorsalis. (C) Gross Examination of the Mastectomy Specimen

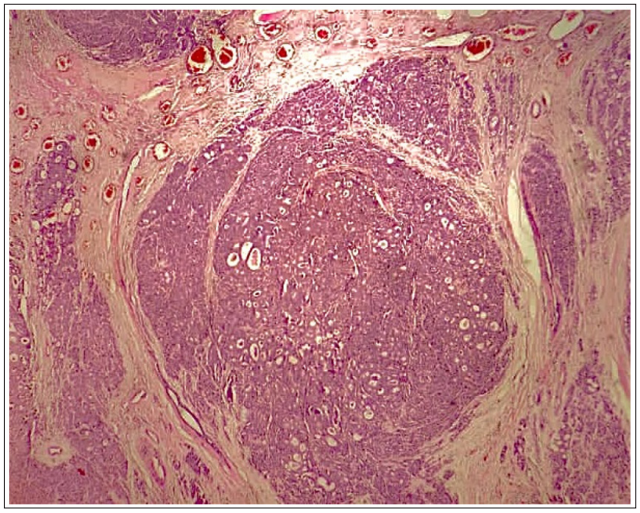

Figure 2: Expansile Nodules Composed of Solid Epithelial Proliferation Punctuated by Delicate Fibrovascular Cores (Hemalum& Eosin x 100)

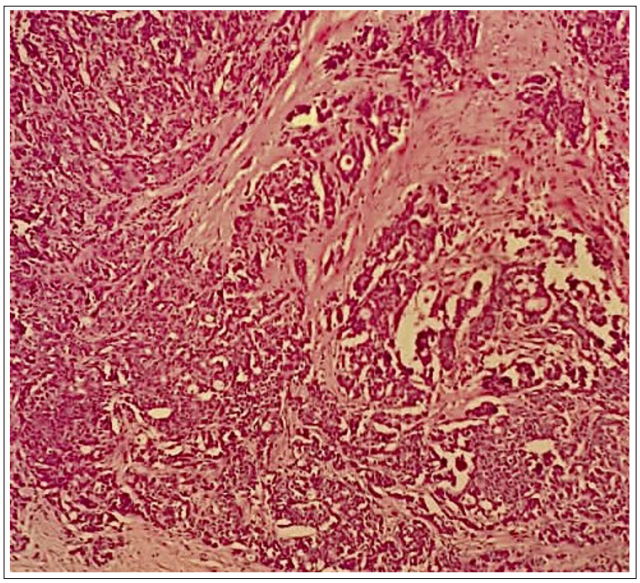

Figure 3: Invasive Component with Destructive Growth (Hemalun&Eosin x 400)

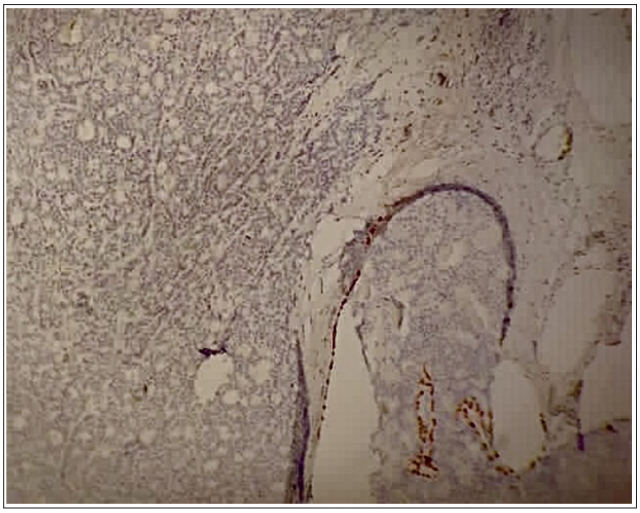

Figure 4: P63 Antibody Showing the Absence of Myoepithelial Cells in the Invasive Component (Immunohistochemistry x 250)

As a result of the above findings, a final diagnosis of invasive solid papillary carcinoma was made.

Discussion

The male mammary glands have a discoid shape with a diameter similar to that of the areola, 3 to 4 mm thick, they are composed of fatty tissue with some ducts and connective tissue, but without the development of acini and lobules. This breast tissue can respond to hormonal stimuli, which results in the growth of connective tissue and conduits (gynecomastia), and can also develop cancer [4].

Male breast carcinomas are rarely observed and it accounts for 0,6 – 1 % of all mammary cancers [5].

The cause of male breast cancer is poorly understood, but hormonal imbalance, obesity and some testicular abnormalities are implicated in this disease [6]. Other risk factors include advanced age, radiation exposure, smoking and chronic heat exposure, which may disturb testicular function [7]. A positive family history and BRCA2 gene mutation confer a high risk of male breast cancer [8]. In our case only smoking and advanced age are found as risk factors.

It has been documented that male breast cancer is somewhat more likely to be diagnosed in left breast than right. Most tumors were confined to the central subareolar area.

Solid papillary carcinoma is commonly seen on mammography as oval or round and well demarcated lesion, exceptionally it can show obscure margin [9].

The predominant histologic subtype is invasive carcinoma not otherwise specified. Solid papillary carcinoma is extremely rare. Histologically, the tumor shows solid sheets, jigsaw pattern with more ragged and irregular margins, coupled with absence of myoepithelial cells is considered invasive carcinoma, thin fibrovascular cores are interspersed within the tumor, the cells are plasmacytoid, uniforms with speckled chromatin.

In majority of cases, strong estrogen and progesterone receptor expression was demonstrable and half of cases showed neuroendocrine differentiation [10].

Regarding the prognosis, solid papillary carcinoma without invasive component is not associated with metastatic axillary involvement [11]. When invasive component is present, some metastatic lesions have been reported in the literature [12].

The treatment of choice consists on partial or radical mastectomy, adjuvant chemotherapy can be added according to the staging information [13]. Radiation and endocrine therapy are still under investigation [14].

Conclusion

To conclude, solid papillary carcinoma of the breast is an uncommon disease in women. Here, we have described a rare case of this entity with an invasive component in a male patient which must raise the concern when dealing with a painless mass in male breast. Much work in term of molecular characterization of male breast cancer is needed to provide advice for optimal treatment choices.

Competing Interests

The authors declare that they have no conflicts of interest.

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