Case Report

Papillary Carcinoma of the Male Breast: Report of a Case

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Abstract
Intracystic papillary carcinoma of the male breast represents an extremely rare entity that accounts for less than 1% of all malignancies, and histologically may range from papillary hyperplasia in gynecomastia to invasive papillary carcinoma. This report presents the case of a 61-year-old Caucasian man who presented with a 5-year history of a centrally located painless swelling of his right breast with occasional nipple discharge. Triple assessment was very helpful in establishing the diagnosis. Treatment included a mastectomy and hormonal therapy because the neoplasm expressed hormone receptors. Although male breast carcinomas tend to behave more aggressively than their female counterparts, the prognosis of this neoplasm is excellent.

Key words Papillary male breast carcinoma · Pathology · Treatment

Introduction

Male breast cancer has an incidence of 1 per 100,000 per annum, and accounts for less than 1% of all male malignancies. Intracystic papillary breast carcinoma (IPC) represents an extremely rare neoplasm, accounts for only 5%–7.5% of all male breast carcinomas, and usually affects males of advanced age.1 Invasive papillary carcinoma of the breast is a rare tumor, even in females. Symptomatology may be unremarkable or may mimic that of common invasive carcinomas in women. Most of the patients present with a painless palpable lump, but a diffuse swelling or a bloody nipple discharge are not uncommon findings.2,5

Triple assessment is essential to reach the diagnosis. The typical sonographic appearance of IPC is of hypoechoic area with soft tissue echoes emerging from the wall of the cyst. Intracystic papillary carcinoma are highly vascular tumors demonstrating a characteristic flow pattern on color-flow studies, which allow the detection even of very small lesions.2,4 The mammographic appearance of IPC is not always specific and may often range from mammographically negative small IPC to a well-circumscribed dense mass. In both instances the lesion can cause a minimal to moderate duct dilatation in a tapering band-like density pattern from the nipple toward the parenchyma.5,6

Fine-needle aspiration cytology or a core biopsy is usually the first diagnostic tool. Aspirates from papillary carcinomas are more often characterized by high cellularity, prominent papillary or cribriform configuration, many single often columnar epithelial cells, with hemorrhage and hemosiderin-laden macrophages in the background.7,8 However, the false-negative results with cytology are relatively frequent.9 Therefore, an excisional biopsy should be highly recommended in all lesions of the male breast that are proved suspicious through any of the above diagnostic modalities.

The majority of these tumors are low grade, hormone-receptor positive, and show an overall favorable prognosis.10 A total mastectomy, modified radical mastectomy, segmentectomy with or without sentinel node biopsy, adjuvant hormonal therapy or chemotherapy, and radiotherapy, all alone or in combination, have been proposed as treatment alternatives. This report presents the case of a patient presenting with IPC, and also reviews the pertinent literature.

Case Report

A 61-year-old man presented with a 5-year history of a painless swelling of his right breast. He also experienced
an occasional serosanguineous discharge from the
nipple. There was no medical history or family history
of breast cancer apart from a mastectomy performed on
his mother 20 years previously for a benign lesion. The
patient also denied a family history of ovarian and pros-
tate cancer. The clinical examination revealed a palpa-
bable painless mass that was centrally located and poorly
circumscribed. Palpated lymph nodes were also detected
in the right axilla. There was no skin ulceration or nipple
inversion. Mammography demonstrated a centrally
located ill-defined mass with irregular margins and scat-
tered intraductal microcalcifications in the retroareolar
space, strongly suspected to be a malignancy (Fig. 1).
Enlarged lymph nodes were also demonstrated. The left
breast had a normal appearance. No ultrasonography
was performed. Cytology of the nipple discharge
revealed papillary clusters of epithelial cells in a bloody
and necrotic background with enlarged hyperchromatic
nuclei, coarse chromatin, and nucleoli consistent with a
papillary tumor. The coexistence of isolated atypical
cells supported the diagnosis of carcinoma. The cytology
was insufficient to distinguish between carcinoma in situ
and invasive carcinoma (Figs. 2 and 3).

These findings strongly suggested papillary adenocar-
cinoma, therefore a metastatic workup was conducted.
Blood tests including full blood count, erythrocyte sedi-
m entation rate, liver function tests, and tumor markers
were all within normal limits. The chest X-ray findings
were normal, as well as computed tomography of the
upper and lower abdomen. A bone scan was normal as
well.

The patient underwent a modified right mastectomy.
The postoperative course was uneventful, and the
patient was discharged the next day with a drain placed
in the right axilla.

The pathology of the specimen revealed a tumor
measuring 1.9 cm in the greatest diameter, with features
compatible with intracystic papillary carcinoma. The
lesion contained cells presenting low and moderate
atypia of nuclei with focal necrosis and microcalcifica-
tions (Fig. 4). Immunohistochemistry showed myoepi-
thelial cell staining with calponin (Fig. 5). The surgical
margins were free of malignant infiltration, as were all