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Case Report

Invasive micropapillary carcinoma breast: a rare entity

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ABSTRACT

Invasive Papillary Carcinoma(IPC) is an uncommon breast disease, constituting 0.5% to 1% of all breast carcinomas. It is distinguished by the papillary structural design: proliferation characterized by finger-like projections or fronds composed of central fibrovascular cores covered by epithelium, without myoepithelial cell layer. The combination of a residual palpable mass and a frankly bloody aspirate at the fine needle aspiration is a strongest indicator of carcinoma. Clinical and Radiological manifestations of IPC are not specific. Papillary carcinomas may present as bloody nipple discharge, an abnormal mass, or radiographic abnormalities. Therapeutic management of IPC is still controversial. Treatment-related information for patients with papillary carcinoma is limited, and patterns noted in available series suggest a variable approach to this disease.

Keywords: Controversial, Invasive papillary carcinoma, Myoepithelial cell layer, Uncommon breast disease

INTRODUCTION

Papillary carcinoma of the breast, a newly-defined entity, is poorly recognized, and its nature and management are still debated.

Invasive Papillary Carcinoma(IPC) is an uncommon breast disease, constituting 0.5% to 1% of all breast carcinomas and is diagnosed predominantly in postmenopausal patients.[1]

Invasive papillary carcinoma of the breast is a rare form of breast cancer with less aggressive behavior which may have mucinous differentiation. Papillary lesions of the breast have been a manner of challenge for pathologists. Histologically papillary projections with fibrovascular core and epithelial proliferation are present. Signet ring morphology and extracellular mucin production can be seen but myoepithelial cells are absent.[1] Clinical and Radiological manifestations of IPC are not specific.

Papillary carcinomas may present as bloody nipple discharge, an abnormal mass, or radiographic abnormalities.[2]

Therapeutic management of IPC is still controversial.

Papillary carcinoma of the breast is a rare entity with distinctive clinicopathological features and excellent prognosis and should be distinguished from conventional breast carcinoma to avoid over-treatment.

METHODS

A 65-year-old female patient presented to surgical OPD, with slow growing lump in left breast since 1 year, associated with dull aching pain. Examination revealed a 5x5cm lump in upper outer quadrant of left breast. There was no history of weight loss, or similar complaints in the family. There was evidence of nipple retraction with involvement of surrounding skin. Minimal tenderness

was evident with no nipple discharge or cutaneous manifestations. Multiple axillary lymph nodes were palpable - firm in consistency, non-tender and mobile. The examination of right breast and right axilla were within normal limits.

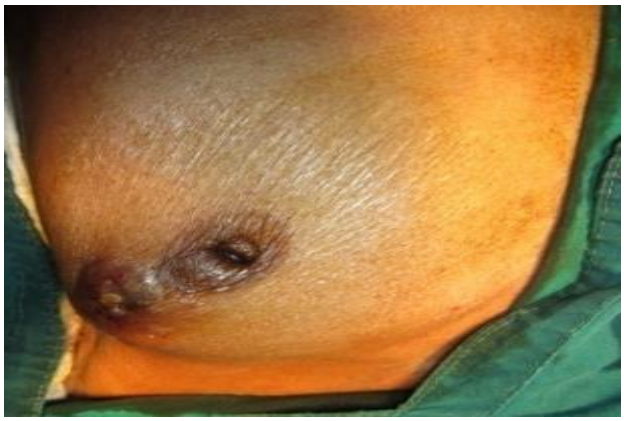

Figure 1: Clinical pre-operative photo.

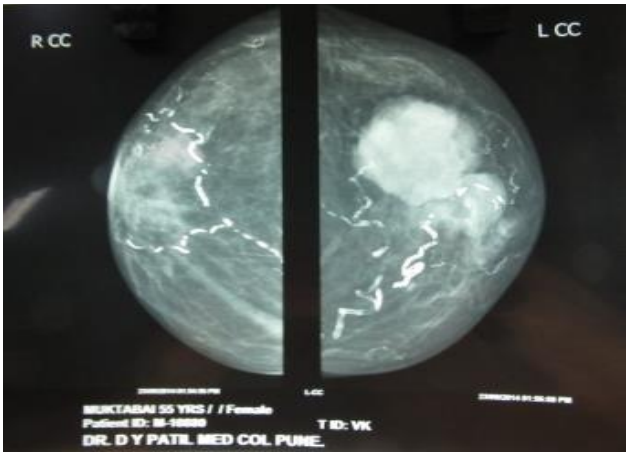

Figure 2: Pre-operative mammography.

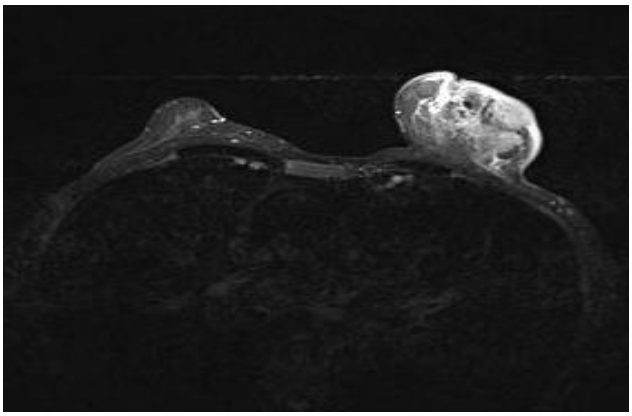

Figure 3: Pre-operative MRI.

FNAC was suggestive of malignancy. USG breast was suggestive of carcinoma left breast with axillary lymphadenopathy. Mammography was suggestive of well-defined round lobulated mass lesion 3.9x3.7cm in outer part of left breast. MRI revealed 4.7x4.9x4.0cm lesion in upper outer quadrant of left breast with irregular outline and axillary lymphadenopathy. Patient was given 2 cycles of chemotherapy CMF regime pre-operatively. Patient underwent left Modified Radical Mastectomy. The specimen was sent for histopathological examination which was suggestive of Invasive Micropapillary Carcinoma left breast with metastasis in the ipsilateral axillary lymph nodes. Patient was given 2 cycles of chemotherapy CMF regime post-operatively. Patient has been asymptomatic during a follow-up period of 6 months.

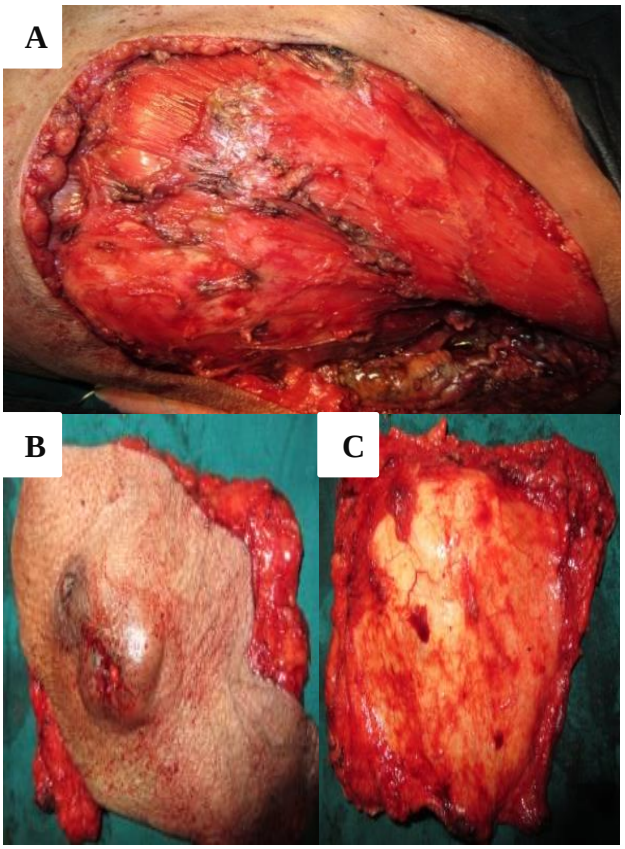

Figure 4: (A, B, C): Intra-operative pictures.

DISCUSSION

Papillary carcinoma of the breast is a rare malignant tumor, constituting less than 1 % of all breast carcinomas in women.[3] It is distinguished by the papillary structural design: proliferation characterized by finger-like projections or fronds composed of central fibrovascular cores covered by epithelium, without myoepithelial cell layer.

Clinically, it frequently presents as a benign-like mass. The tumor can also manifest with a bloody nipple discharge, and in some cases, it can be asymptomatic. Axillaries nodes are infrequent.[4]

Mammographic distinction between invasive and intracystic carcinomas is difficult because the small focus

of invasion either is not detected or cannot be differentiated from the focal irregular margin of some intracystic tumors.

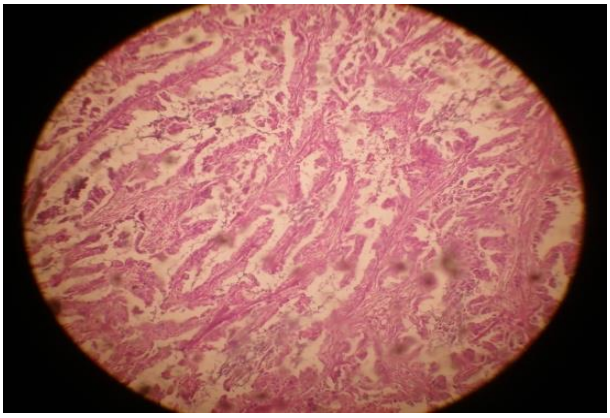

Figure 5: Histopathological examination: papillary projections.

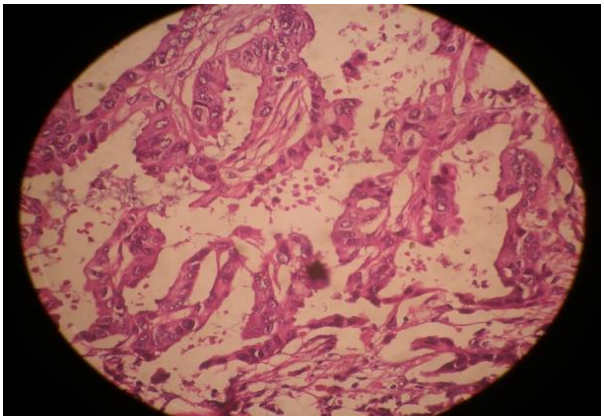

Figure 6: Histopathological examination: lymphocytic infiltration.

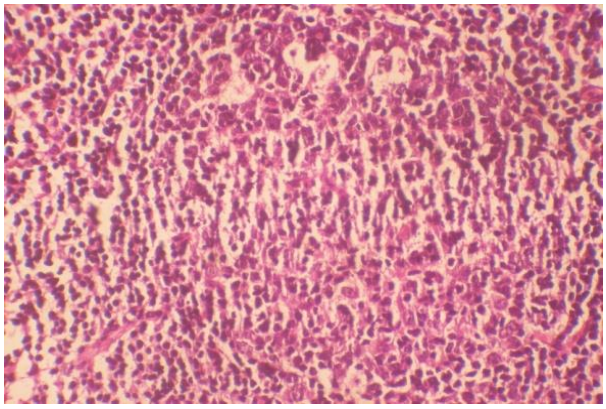

Figure 7: Histopathological examination: mitotic activity.

Sonography usually reveals solid masses, although complex cystic and solid masses also can be identified.[5]

The differential diagnosis on mammographic appearance includes a hematoma, invasive ductal carcinoma, and colloid or medullary carcinoma, benign cyst, or adenofibroma.[6]

The combination of a residual palpable mass and a frankly bloody aspirate at the fine needle aspiration is a strongest indicator of carcinoma. Surgical excision is recommended after core-needle biopsy if there is atypia, high-risk lesion, positivity for malignancy, or imaging-histological discordance.

Identification of a myoepithelial cell layers essentially by immunohistochemical analysis has become a key feature in distinguishing benign from malignant and in situ from invasive papillary lesions of the breast.[7]

There are no evidence-based guidelines for treatment of IPC. There is no randomized controlled trial comparing breast conserving surgery to mastectomy. However, many case reports and retrospective studies showed excellent prognosis with conservative surgery without axillary dissection in IPC not associated to DCIS or microinvasion lesions.[8]

Sentinel node biopsy may be an excellent alternative to full axillary dissection in patients with IPC and associated invasive carcinoma.[1]

There is lack of evidence about the role of adjuvant therapy.

Treatment-related information for patients with papillary carcinoma is limited, and patterns noted in available series suggest a variable approach to this disease. The scarcity of information underscores the need for further treatment and outcome-related studies in papillary carcinoma of the breast.

CONCLUSION

Invasive papillary carcinoma is rare breast malignancy, with an excellent prognosis in its pure form. The mainstay of treatment is surgical resection, with adjuvant therapy if associated with DCIS or invasive carcinoma.

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