INTRACYSTIC PAPILLARY CARCINOMA OF BREAST: A CASE REPORT

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ABSTRACT

Intracystic carcinoma of the breast is a rare type of breast carcinoma. Its incidence being 0.2-0.5% of all malignant tumours of the breast. This report is on the case of a 49-year-old lady with a palpable, painless lump in her LEFT breast. Patient was operated at another hospital for a lumpectomy considering her Sonomammography to suggest of fibroadenoma BIRADS II. Lumpectomy revealed intracystic papillary carcinoma.

KEYWORDS

Breast Cancer; Sonomammography; Histopathology; Intracystic Papillary Carcinoma of Breast; Surgery; Chemotherapy; Radiation; Endocrine Therapy.

INTRODUCTION

Intraductal papillary neoplasms of the breast exhibit a wide spectrum of pathological changes, with benign intraductal papilloma on one end of the spectrum and papillary carcinoma at the other end.[1] Papillary carcinoma is a rare form of breast carcinoma. Intracystic Papillary Carcinoma (IPC) is a variant of papillary carcinoma and accounts for 0.5-1% of breast cancers.[2,3,4] Physical examination and imaging findings can’t distinguish between benign and malignant intracystic lesion. The ultrasound provides the greatest information about these tumours.[1,2-5] Fine Needle Aspiration Biopsy (FNAB) may show a malignant lesion, but it is often inaccurate and excisional biopsy is necessary for definitive diagnosis.[2,3,4] IPC was originally reported as a localised non-invasive carcinoma, but is occasionally associated with Ductal Carcinoma In Situ (DCIS) or invasive carcinoma around the main tumour.[2,3,7,8] Complete excision of the cyst which should include the intracystic tumour is the treatment of choice.[1,2]

CASE REPORT

A 49-year-old lady presented to the Breast Outpatient Department with 2 days’ old history suggesting of intracystic papillary carcinoma, without information on status of margins of the lumpectomy done 8 days back, for a 2-month-old painless lump in the left breast, whose sonomammography suggested of BIRADS II lesion in the left breast measuring 1.8 x 1.1 cm. After detailed history, patient revealed of painless progressive lump since 3 months with family history negative for malignancy in first-degree relatives; on examination healthy scar was seen on the left breast, normal left axilla and right breast and axilla. A fresh ultrasound of abdomen and chest x-ray revealed no systemic metastasis.

Mammography was done to rule out residual disease, an ultrasound of abdomen and a chest x-ray PA view to rule out systemic metastasis. Mammography revealed postoperative changes in the left breast and normal right breast. Ultrasound of abdomen and chest x-ray revealed no systemic metastasis. A revision biopsy and left axillary dissection was performed on day care basis. Postoperative period was uneventful. Patient has completed adjuvant radiation and is on follow-up for last three months, with no evidence of disease on clinical and radiological investigations. Gross examination suggested of 4.5 x 3.5 x 2 cm lumpectomy with 1.8 x 1 cm fibrous tissue with all margins free of tumour. Microscopic examination suggested of no residual disease. Of 17 nodes none was positive. Since the blocks of tumour were re-examined the microscopic report suggested of intracystic papillary carcinoma with triple negative status. Patient was subjected to adjuvant radiation after revision surgery.

DISCUSSION

Cystic carcinoma of the breast includes a spectrum of tumours. These include IPC with or without invasion, ductal carcinoma with cystic degeneration, and cystic hypersecretory ductal adenocarcinoma.[3,9] IPC is a rare neoplasm of the breast, so far classified as a histologic variant of DCIS. However, this is not debated since the overall clinical and radiological presentation of IPC is different from DCIS and metastatic cases have been reported.[10] According to Haris et al., Leal et al., and Lofoceowits et al., nearly 4% to 70% of patients with IPC show DCIS or invasive carcinoma around the main tumour.[11] Therefore, although it carries a favourable prognosis, one must not overlook the diagnosis or undertreat this highly curable condition. IPC can be present as a pure form or associated with ductal carcinoma in situ or invasive ductal carcinoma around the tumour. The frequency of lymph node involvement, local recurrence and distant recurrence is 0% to 11%, 3% to 70% and 0% to 4% respectively.[6,7,11] IPCs are reported in patients from 25 to 80 years of age with a peak incidence in patients aged 40 to 75 years old.[2,4] These tumours may have a wide spectrum of presentations varying from a focally invasive lesion to a large mass located within a cystically dilated duct.
The tumour may be small and detected only on mammography or may be large and palpable in clinical examination.\[2,6,12\] IPCs are reported in different sizes, ranging from 1 to 10 cm. It may be seen anywhere in the breast. Recently, imaging methods and less invasive histopathological examinations have made it possible to diagnose IPC before excisional biopsy and radical surgery. The mammographic finding of IPC is usually a well-circumscribed, high-density mass. Occasionally, satellite lesions or microcalcifications or both are present. IPC usually presents as a smooth sharply circumscribed mass without an irregular or nodular contour, except when the tumour breaks through the wall of the cyst to invade the adjacent parenchyma.\[2,12,13\] Ultrasoundography is the imaging method to distinguish cystic from solid masses of the breast and to differentiate simple cyst from cysts with intracystic tumour lesions.\[12,13,14,15\] Ultrasoundography usually shows complex cystic and solid masses that have mild-to-moderate posterior acoustic shadowing or posterior acoustic enhancement.\[5,13\] In rare cases, a cystic carcinoma might have no solid component.\[16\] Intracystic breast carcinoma without solid component may simulate as a simple cyst on ultrasound. Colour Doppler Ultrasound is a useful diagnostic method to distinguish between the solid portion of the cystic lesion and echogenic internal debris.

Magnetic Resonance (MR) imaging of the IPC shows mural nodules and internal septa. MR imaging of the large IPC might show a multicystic appearance.\[13,14,17,18\] It is well documented that MR imaging is more sensitive in detecting DCIS around the IPC than other imaging methods. In younger patients; however, the presence of high background signals sometimes make it difficult to demonstrate the DCIS with MR because of the high contrast of MR.\[18,19\] It is feasible to perform a preoperative ultrasound-guided Fine Needle Aspiration Biopsy Cytology (FNABC) or core biopsy of the cystic and solid component for cytological and histological studies.\[20\] The aspirated fluid is often bloody, although the bloody aspirate is not pathognomonic for IPC. Although ultrasound and aspiration biopsy are usually the first steps in the diagnosis of IPC, cytological examination also has high false-negative results due to necrotic materials, degenerative changes in the diagnostic cells and abundant obscuring blood in the cystic lesion.\[5,14,15\] Core needle biopsy is a useful tool for diagnosis of IPC, although it is important to keep in mind that core needle biopsy of the central solid portion of the mass cannot distinguish between in situ and invasive lesions at the periphery of IPC.\[4,5,12,21\] On pathologic examination, most tumours have a soft or friable consistency, and have a spherical circumscribed contour.

IPC usually appears as a mass with cystic component, which might have a papillary, nodular or shaggy internal surface. There is usually fibrotic tissue in the wall of the cyst, which limits invasion into the surrounding parenchyma. Most IPCs are characterised by well circumscribed nodules surrounded by a fibrous capsule and large vessels might be seen within the papillary nodules or the internal septa of intracystic lesion. Haemorrhage in IPC is usually due to torsion and infarction of the intracystic nodules. Pathologically, intracystic papillary carcinoma can show four cellular patterns: cribriform, compact columnar epithelial, stratified spindle cell, or a transitional cell form resembling urothelium, or a combination of two or more of these patterns may be seen.\[9\] IPC may be associated with solid DCIS or invasive cancer, and necrosis is often a prominent feature when an associated invasive component is present.\[2,7,9\] The lack of myoepithelial cells is one of the important features to differentiate between invasive and in situ carcinoma of the breast. CD10 immunochemistry and comparison of its staining to those of smooth muscle actin (SMA) is used to detect myoepithelial cells.\[22\] For facilitating management decisions, it can be classified into three main subtypes: IPC alone, IPC with DCIS only, or IPC with invasion.\[21\] The treatment of IPC is similar to other forms of breast cancer in which lumpectomy, segmentectomy and mastectomy are reliable actions.

In the cases of IPC alone, IPC with DCIS, or IPC with invasion, complete local excision of the tumour with clear margins is the recommended surgical treatment.\[11\] Sentinel node biopsies or axillary dissections are often performed for evaluation of axillary lymph nodes. Radiation therapy may also be administered in some patients.\[3\] Many articles and published data recommend adjuvant RT for IPC associated with invasion and or DCIS.\[23\] Moreover, in young women (less than 50 years), with IPC alone, radiotherapy has been suggested as an adjuvant treatment.\[9,24\] The low yield for metastasis and vascular invasion make chemotherapeutic intervention not mandatory. This treatment modality would be only considered in cases associated with lymphovascular invasion and can be safely omitted in IPC alone or with associated DCIS. Furthermore, the balance of benefit and risk has been influenced by the good clinical prognosis which is reported in such cases.\[24\] In females less than 50 years, with IPC alone, adjuvant endocrine therapy has been suggested.\[23\]

It is important for the surgeon to know that approximately half of all patients with IPC are associated with DCIS or invasive carcinoma to design an appropriate surgical treatment.\[27\] Partial mastectomy without axillary lymph node dissection is the standard treatment for patients with non-invasive IPC, while patients with invasive IPC usually undergo mastectomy with lymph node dissection. IPC is characterised by a more benign behaviour and a subsequent higher survival rate. The prognosis for IPC is usually very good with disease-specific survival rates approximately 100%. In cases with a large amount of nuclear atypia, the prognosis may be less optimistic.\[9,22\]

REFERENCES


