Papillary Carcinoma of the Breast- Case Reports and Review of Literature Regarding Management Guidelines

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Abstract Papillary carcinoma of the breast is a very rare entity accounting for approx 1 % of all breast carcinomas. The diagnosis is difficult due to different clinical and radiological features. Pathological diagnosis is conclusive. Being aware of the diagnostic difficulties and differences in management from the more commonly reported IDC, makes it easier to treat these patients. Because this is an uncommon disease, we report here 2 cases recently diagnosed and treated in our hospital. We have also reviewed the literature regarding the diagnosis, treatment and prognosis of these patients.

Keywords Papillary · Carcinoma · Breast

Introduction

Papillary carcinoma of the breast is a rare tumour accounting for 1–2 % of all the breast carcinomas [1]. The diagnosis is often difficult because of different clinical and radiological features. Pathological diagnosis is conclusive. Here we report two cases recently diagnosed and treated in our institution and present a review of literature of papillary carcinoma of the breast.

Case No. 1

The first case was a young lady, 40 years of age, premenopausal, multiparous, having breast fed all the

issues, with regular menstrual history and no family history of cancers. She presented with a large lump in left breast since 6 months which was increasing in size gradually. Her incision biopsy had been done in another hospital and was reported as infiltrating duct carcinoma. On clinical examination the breast lump was measuring 10×8cms in upper inner and upper central quadrant of left breast with an open wound with purulent discharge. The mass was firm and not fixed to the muscle. No axillary nodes were palpable. She was started on antibiotics and complete work up was done.

Her mammography showed a very homogenous, well circumscribed mass reported as BIRAD 3 lesion (Fig. 1). Her modified radical mastectomy was done and the histopathology report came as invasive papillary carcinoma of the breast. Tumour size was 7×6.5×6 cms. All lymph nodes were negative. ER and PR were positive. After MRM, the patient was given adjuvant chemotherapy and locoregional radiotherapy. She was started on tamoxifen.

Case No. 2

The second case presented more difficulties in diagnosis. She was an elderly lady, 64 years old, postmenopausal, multiparous, breast fed all issues, with no family history of cancers. She was a hypertensive on medication. She had a history of opposite side breast cancer for which MRM was done 20 years back. No adjuvant treatment was given and no other details regarding the pathology of that tumour were available. Now, she presented with left breast lump, gradually increasing in size since 2 months. FNAC was done in another hospital which was reported as positive for malignancy. On examination there was a lump in lower outer quadrant

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of left breast measuring 4×3 cms, firm, mobile and not fixed to muscle. Mammography showed a 3×3 cms lump in LOQ which was categorized as BIRAD 4.

Trucut biopsy was done which showed a papillary tumour. Lumpectomy was done and the frozen section was reported as benign. However the final histopathology report was low grade papillary carcinoma 3×2.5 cms. (Fig. 2). Then Modified Radical Mastectomy was done. All the nodes were reported negative for metastases. The tumour was ER and PR strongly positive. She was started on anastrozole.

Discussion

Papillary carcinoma is a rare malignant tumour of the breast. It has a better prognosis than other breast carcinomas [1, 2].

Clinically it usually presents as breast lump or bloody nipple discharge. It may also be asymptomatic and detected on screening mammography. The lump is usually firm and mobile and not hard and fixed as with other ductal carcinomas. Diagnosis is difficult because of mixed findings in mammography and cytology. Mammography usually shows a relatively well circumscribed and homogenous mass, though margins may be obscured [3]. It can be mistaken for a benign lesion on mammography. Differentiation between benign and malignant papillary lesions may be difficult on FNAC also because FNAC targets the centre and invasion is at the periphery. Same may be the problem with trucut biopsy of the lesion. The incidence of malignancy at surgical excision for papillary lesions found on percutaneous core biopsy ranges from 17 % to 34 % in some studies

Fig. 1 Mammography showing tumour with benign features

Fig. 2 Microscopic picture of papillary carcinoma breast

[4, 5]. Hence excision biopsy of all papillary lesions should be done due to the high upgrade rate of malignancy. Pathologically papillary carcinoma has a frond forming growth pattern with a fibrovascular core with the absence of a myoepithelial layer [1].

Treatment is based on the pathology- whether it is pure intracystic papillary carcinoma or invasive papillary carcinoma. Wide local excision of the breast lesion with or without sentinel node biopsy can be done for pure intracystic papillary carcinoma. Axillary dissection is not required since nodal metastases are rare in this group of patients, however since there have been a few reports of nodal metastases, sentinel node biopsy may be warranted [6]. Mastectomy can be done for larger tumours where breast conservation is not possible.

Further treatment for this group of patients is radiation therapy and hormone therapy. Radiation is more frequently used in younger age patients and those with a larger tumour size, poorer tumour grade and tumour necrosis [7]. Hormone therapy is required in a majority of these patients as they are mostly ER and PR positive.

The patients with invasive component of papillary carcinoma need to be treated as per the guidelines for other invasive breast cancers.

Prognosis is usually excellent with disease free 10 year survival rates being reported as 91 % and overall survival at 10 years as 100 % in one study [8].

Conclusion

Papillary carcinoma of the breast is a rare entity. Being aware of its unique clinical features and the diagnostic difficulties helps in better management of these patients.

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