Pleomorphic Adenoma of Breast-A Case Report and Review of Literature

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Abstract Pleomorphic adenoma (PA) is a rare benign tumour of the breast. However inadequate surgery of this tumour, which is notorious for its pseudopod like extension into adjacent tissue, results in recurrence. We report a case of pleomorphic adenoma of the breast that has been excised at a local hospital and then referred to a tertiary care hospital for definite management. The diagnostic dilemmas and optimal management, of such cases where dependable pathology report and details of primary surgery are often not available, are discussed.

Keywords Pleomorphic adenoma · Breast cancer

Introduction

Pleomorphic adenoma (PA) is a rare benign tumour of the breast. The tumour commonly occurs in the salivary gland where the management protocols are now well defined. We here report a case of PA breast and discuss the controversy regarding its management.

Case Report

A 60 year lady presented to a local hospital with a lump in the left breast for the last 2 months. She was evaluated with FNAC which was reported as fibroadenoma and

fibrocystic disease of breast with differential diagnosis of myofibroblastoma. She subsequently underwent lumpectomy of the breast lump at a local hospital. Final Histopathology analysis revealed it to be pleomorphic adenoma of the breast. She was referred to our centre for further management. Examination of the breast revealed a post lumpectomy scar in the inferior aspect of left areola with underlying post-surgery induration. No obvious lump was palpable. Opposite breast & both axilla were normal. Rest of the systemic examination was within normal limits.

Review of the slides at our institute confirmed it to be PA. The tumour was partly circumscribed and composed of rounded and angulated closely packed duct like structures lined by inner epithelial and outer myoepithelial cell layers. There was evidence of minimal epithelial atypia, focal myoepithelial cell predominance and occasional mitotic figures. Stroma was chondromyxoid with prominent cartilaginous metaplasia (Figs. 1 and 2). Periphery of the neoplasm was ill defined at places with extension of stromal and epithelial elements into adjacent fat. Immunohistochemistry revealed the tumour to be strongly positive for cytokeratin in the epithelial cells and moderately positive in the myoepithelial cell. P63 and SMA were positive in the myoepithelial component (Fig. 3). However no comment was possible on the surgical margins as the specimen had been grossed outside.

Since the status of the margin was not available, options of either a re-excision or close follow up were discussed with the patient. Patient underwent excision of the scar along with the wide excision of the underlying breast tissue. Intra-operatively no residual tumour could be made out, but on final histopathological examination there was a residual PA. The margins of resection were clear of tumour, with nearest margin being 0.5cm away. She had an uneventful post-operative recovery and is recurrence free at 1 year of follow up.

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Fig. 1 Tumor cells in glandular pattern in a chondromyxoid stroma

Discussion

PA of breast was initially described by Smith BH and Taylor HB in 1969 [1]. Occurrence of this tumour in breast is rare and only case reports and small case series have been described in the literature. A review by John JB et al., found case reports of 70 odd cases in 2007 [2]. Salivary gland neoplasm of breast range from benign PA to malignant adenoid cystic carcinoma [3]. It has been suggested that PA probably starts as an intraductal papilloma. The myoepithelial cells of the papilloma are extraordinarily stimulated resulting in formation of the characteristic stromal elements. It has been further suggested that multifocal PA may arise from multiple intraductal papillomas [4, 5].

PA most commonly occurs in females, however it has also been described in male breast [5]. The age of patients that has been reported in the literature ranged from 19 to 85 years [6–8]. The most common presenting feature is a palpable mass. The location of the tumour is most often retroareolar. Clinically these tumours present as a breast lump and are

Fig. 2 Glands showing inner epithelial and outer myoepithelial layer

Fig. 3 Outer myoepithelial cells showing nuclear positivity for p63

difficult to differentiate from breast cancer. On imaging with sono-mammography it is difficult to differentiate this tumour from other tumours of the breast as no specific mammographic features are described. FNAC is often inconclusive and may frequently reveal it to be fibroadenoma as is in the above mentioned case. Core biopsy done with a wide bore needle might get adequate tissue to diagnose PA. The diagnosis is however usually made post operatively on final histopathological examination.

An excision of the tumour with adequate margins is the treatment of choice in cases of PA of breast. Although it is a benign tumour, an inadequate excision can result in recurrence and even multiple recurrences have been described. An excision of PA adenoma should be ideally performed with the help of frozen section analysis. An intraoperative frozen section examination in cases of inconclusive and equivocal FNAC reports can help in the diagnosis of pleomorphic adenoma with classical histomorphology, and provide valuable information regarding the margins of resected tumor. Adequate margin of excision at this point of time can differ from surgeon to surgeon. Though a margin as less as 3mm has been described as adequate, given the ability of the tumour to have extracapsular extension and pseudopods, we suggest that a wider margin may be necessary to prevent recurrence [2]. Three cases of carcinoma arising from PA in breast have been reported and hence it is pertinent that tumour should be excised with wide margins at the very first instance [9].

In case scenario like the above mentioned one, it is difficult to judge whether a complete resection has been performed and whether there has been a capsular breach during the primary surgery. In such cases it is difficult to differentiate post-operative changes from minimal residual disease either clinically or by sonomammography. MRI may prove to be helpful but no data is available regarding the same in literature. We advocate a re-excision of the scar along with wide excision of underlying breast tissue, as was done in this case. Any residual

tumour may later manifest as recurrence and multiple recurrences are prone for malignant transformation.

Conclusion

PA is an uncommon salivary neoplasm that occurs in the breast. An excision along with an adequate margin performed at the first instances is probably the best curative option. An inadequate surgery is likely to result in recurrences and lead to management dilemmas.

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