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RECURRENT PHYLLODES TUMOUR OF BREAST

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1. INTRODUCTION

Phyllodes tumors (PT) are a group of benign tumors affecting the breast. PT are fibroepithelial lesions that account from 0.3% to 0.5% of female breast tumors [1]. The median rate of local recurrence of PT is 20% [2]. Chelius in 1827 first described this tumor whereas Muller in 1838 coined the term cystosarcoma phyllodes; a misleading description as the tumors are rarely cystic and majority follow a benign clinical course [3]. PT is the currently accepted nomenclature according to the World Health Organization. Surgery has been the primary mode of treatment for PT, with mastectomy being the common treatment of choice. However, breast conserving surgeries have become increasingly common in management of PT for cosmetic reasons. There is a relatively high incidence of local recurrence associated with PT and age, tumor size, surgical approach, mitotic activity, stromal overgrowth and surgical margin have been reported as prognosis-predictive factors related to local recurrence. In this case report, we present a 56-year-old post-menopausal woman who had a recurrence of PT, one and a half years after primary excision.

2. CASE REPORT

A 56-year-old post-menopausal female had presented with the complaints of huge lump in the right breast for one-year duration. The lump was insidious onset, progressive in size and was not associated with pain. There were no complaints of nipple discharge, skin changes. She was operated for excision of a lump in the right breast one and a half years ago and was proven to be a benign phyllodes tumor.

On clinical examination, A mass of 20x18 cm seen involving all quadrants of the right breast with bosselated surface, dilated veins and shiny skin was seen. The swelling was well

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circumscribed, mobile and firm in consistency. There was no skin or chest wall involvement. The Nipple areolar complex were normal. There were no palpable masses in the opposite breast and bilateral axilla.

A thorough work up was performed to rule any evidence of malignancy. Contrast enhanced Computed tomography (CT) thorax (Figure 1) had revealed a well circumscribed lesion in the right breast suggesting Phyllodes tumor and no evidence of lung metastasis.

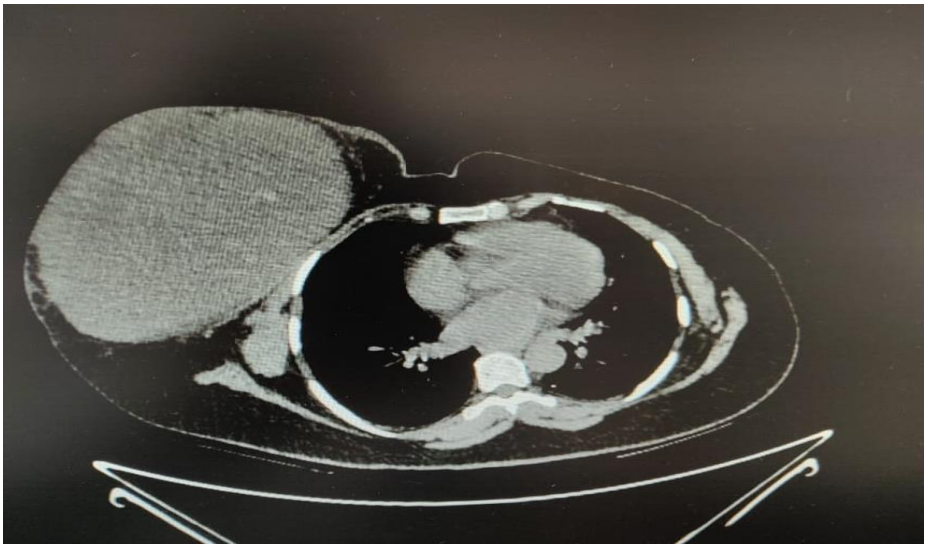

Figure 1: CT imaging demonstrating the well circumscribed lesion

Ultrasound imaging of abdomen and pelvis were found to be normal. However, recent histological biopsy demonstrated borderline phyllodes tumor (Figure 2).

The patient underwent a simple mastectomy in view of the size and recurrence of tumor. On gross examination the excised specimen weighed 6 kilograms(Kgs) and showed areas of a large gray-white invasive tumor with areas of haemorrhage (Figure 2, Figure 3).

Figure 2: Pre-operative clinical image of the tumor

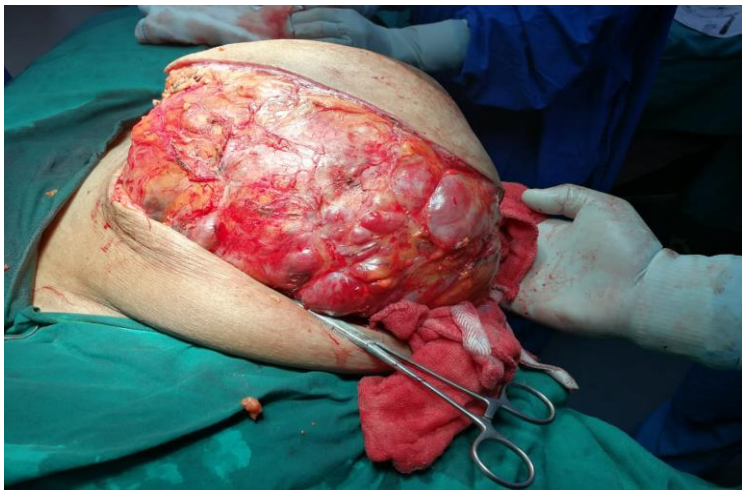

Figure 3: Intra-operative image of the tumor

Microscopic examination demonstrates leaf like projections of mild increased stromal cellularity with a mitotic Activity index of 1 (Figure 4).

Figure 4: Histopathological examination reveals leaf like projections of mild increased stromal cellularity

3. DISCUSSION

PT are fibroepthelial neoplasms with epithelial and cellular stromal components, the latter of which represents the neoplastic process, having a potential for recurrence and metastases. The incidence of PT is about 2.1/million, the peak is seen in women aged 45-49 years [4]. The tumor is rarely found in adolescents and elderly[5]. PT is divided into benign, borderline and malignant histological types based on the microscopic appearance of the stromal component. Approximately 15-30% of all PT are classified as malignant[6]. Histologic appearance may not, however, correlate with clinical behavior, as both malignant and borderline tumors have been shown to be capable of metastasizing. The potential for PT to recur and metastasize was first recognized in the 1930s. Until date, local recurrence rates ranging from 10% to 40% have been reported, with most series averaging 15%[7]. A follow-up period of 30 months was used as the median time for recurrence is less than 24 months in almost all of the studies[8]. Local recurrence appears to be related to the extent of the initial surgery and should be regarded as a failure of primary surgical treatment; however in our case margins were clear. de Roos *et al*[9]. noticed that

patients with recurrence have margin involvement on histological examination, but not all patients with the margin involvement developed recurrence. Whether malignant tumors have an increased risk of recurrence is unclear, but when it does occur it is invariably seen earlier than with benign tumors. Local recurrence usually occurs within the first few years of surgery and histologically resembles the original tumor. Occasionally, recurrent tumors show increased cellularity and more aggressive histological features than the original lesion. In most patients, local recurrence is isolated and is not associated with the development of distant metastasis as also in our case. In a minority of patients repeated local recurrence occurs, over a prolonged period with no survival disadvantage. This is often seen irrespective of either the histological type of the tumor or the extent of the specimen margins. Local recurrence can usually be controlled by further wide excision and mastectomy is not invariably required. Mastectomy should, however, be considered for local recurrence after local surgery for borderline or malignant tumors. Kaprisi *et al*[10] concluded that tumor size and surgical margins were found to be the principal determinant of local recurrence. Other contributing factors for recurrence include tumor size, stromal overgrowth, cellular atypia, tumor necrosis and mitotic activity[2].

Triple assessment by clinical, radiological and histological examination forms the fundamental basis for the evaluation of PTs. Current studies have found that new genetic mutation and intratumoral genetic heterogeneity can develop within the same tumor. These mutations could be the explanation of malignant behavior or recurrence of PT; for example, loss of expression of (P16INK4a) gene was found frequently in malignant PT, also activation mutations in and over expression of epidermal growth factor receptor gene are associated with progression in the grade[11].

4. CONCLUSION

In conclusion, phyllodes tumors should be accurately recognized and effectively treated at first diagnosis, as these tumors have a risk of recurrence. Overlapping features and the transformation possibility make some fibroadenomas and phyllodes tumors indistinguishable at first presentation. We thereby suggest that utmost attention needs to be directed towards those with a high incidence of fibroadenomas, cellular atypia, stromal invasion and large tumor size; so as to make accurately and effectively first diagnosis.Furthermore, standard therapeutic strategy for phyllodes tumors is an urgent need to reduce the risk of tumor recurrence.

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