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A huge progressive Breast Primary Phyllodus Tumor: A rare case report

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ABSTRACT

Phyllodes tumor is described to a small portion of primary tumors of the breast. We report a case of a 64-year-old woman presenting with a lump in the left breast progressive over 4 years reaching her waist level. Core needle biopsy was opined as spindle cell lesion, and subsequent mastectomy confirmed the diagnosis of benign phyllodes tumor. This case is presented for its huge size. To the best of our knowledge this is the largest size it's been reported in the literature.

Keywords: benign phyllodes tumor, stromal proliferation

1. INTRODUCTION

Phyllodes tumor (PT) is a fibroepithelial neoplasm relatively rare as compared to another histologic breast neoplasm (Zhang et al., 2016). For the most part its benign, however it's still had malignant potential. The average size reaches 5 cm, nonetheless, giant phyllodes 10 cm or more are accounted for about 20% of all phyllodes tumors; rarely can they reach sizes up to 30 cm in diameter. Management of the giant phyllodes tumor presents diagnostic and treatment challenges for the surgeon. As they can grow rapidly, they can mimic other types of breast carcinoma, particularly if the mass ulcerates and bleeds (Abe et al., 2011).

We report a large phyllodes tumor a huge breast mass occupying the whole breast with areas of ulceration. What was fascinating about our case was not so much the initial presentation, but the aggressiveness and size of these phyllodes.

2. CASE PRESENTATION

A Saudi female 64 years of age presented with a large left breast mass with slowly growth for 4 years presented to us in King Khalid Hospital in Riyadh, Saudi Arabia in 2020 with rapidly progressive left breast mass over the past 4 months. The mass was linked with pain on and off. There was no history of trauma, weight loss or loss of appetite. She had no history of preceding breast illness or family history of breast tumor. On presentation, the patient was alert, conscious and her vital signs were stable. BMI: 19.3. Breast examination massively enlarged left breast with palpable firm mass measuring about 40 cm in maximum diameter occupying the whole breast with areas of necrosis.

DISCOVERY
SCIENTIFIC SOCIETY

With hemorrhage from diverse points, no other lumps were felt as were the "axillary lymph nodes" (Figure 1). The contralateral breast examination was unremarkable.

Beside a hemoglobin level of 7 g/dl all other investigations were within normal limits. A Tru-cut biopsy showed spindle cell lesion hence no ducts or lobule were found, differential diagnosis of metaplastic carcinoma vs fibromatosis was raised. Therefore, true cut biopsy was repeated where immuno-histo- chemistry showed SMA and CD34 are focally positive. ER, PR, HER2/neu, Desmin and S100 are all negative. Computer tomography scanning for chest shows no evidence of metastasis however prominent left axillary lymph node abdomen and pelvis was unremarkable, as well bone isotope scan was normal.

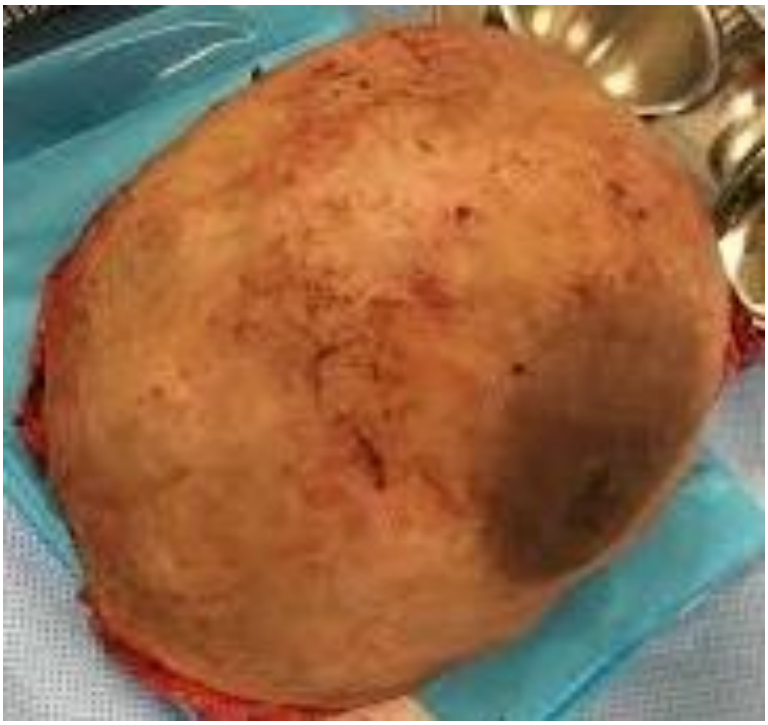

Figure 1 huge phyllodes tumor (view 1)

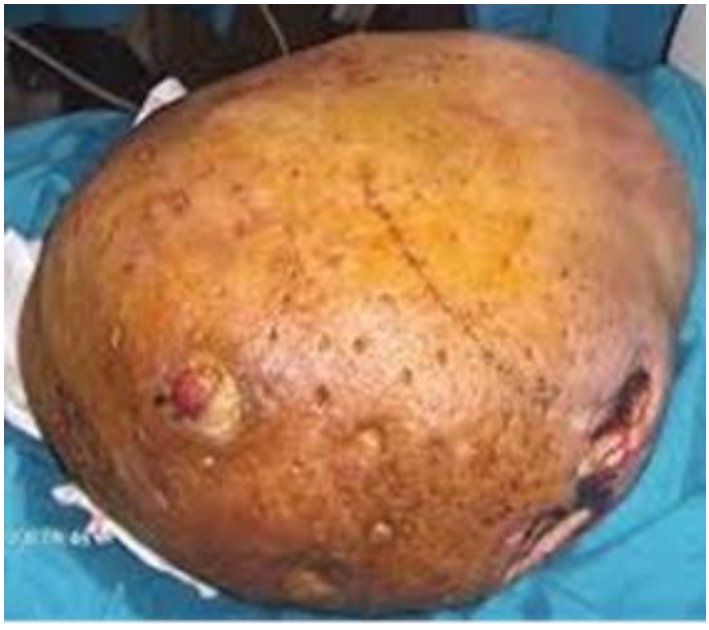

Figure 2 huge Phyllodes tumor (view 2)

After transfusion to correct her hemoglobin, the patient underwent total mastectomy with axillary dissection as the preoperative diagnosis were not definitive to roll-out carcinoma. Near total surface of the specimen is covered by tan colored skin 40×17 cm.

Fragments of breast tissue and several circumscribed nodular masses consistent with mammary phyllodes tumor of borderline malignancy. Moreover, an increased cellularity with mitotic rate is of 4-5 per HPF. 12 reactive lymph nodes were found. Patient had uneventful post-operative period, at a later time she underwent colonoscopy as she had initial low hemoglobin (figure 1-6).

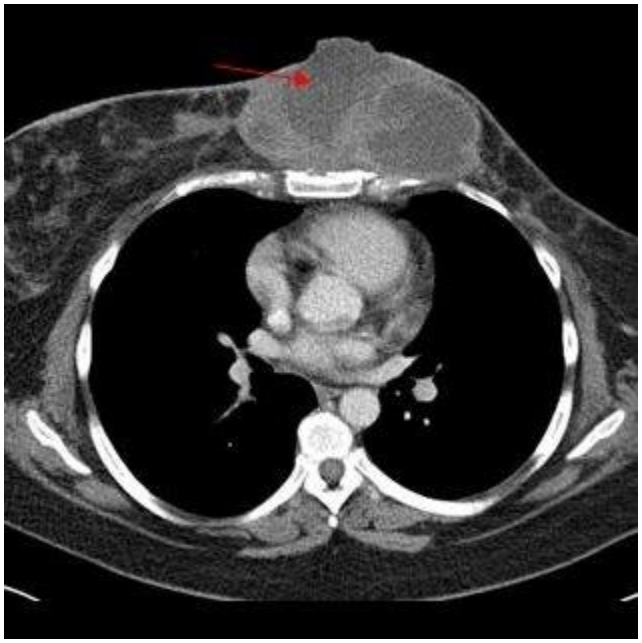

Figure 3 CT scan of Huge Progressive Breast Primary Phyllodes Tumor

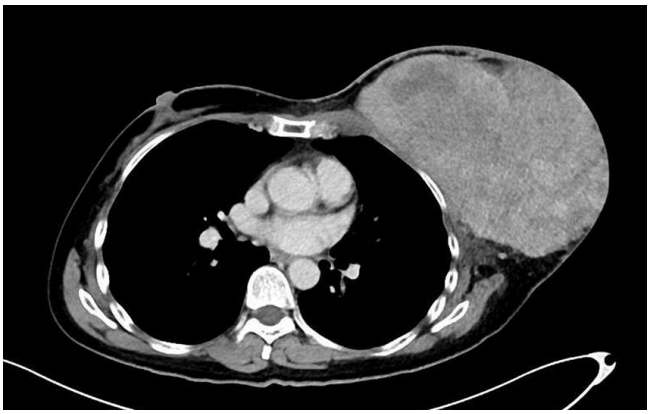

Figure 4 CT scan of Huge Progressive Breast Primary Phyllodes Tumor

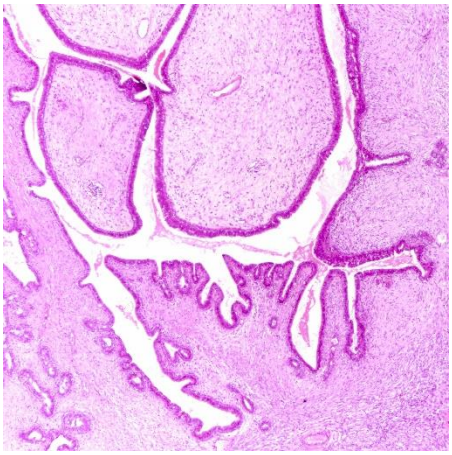

Figure 5 Histo-pathological images of Huge Progressive Breast Primary Phyllodes Tumor

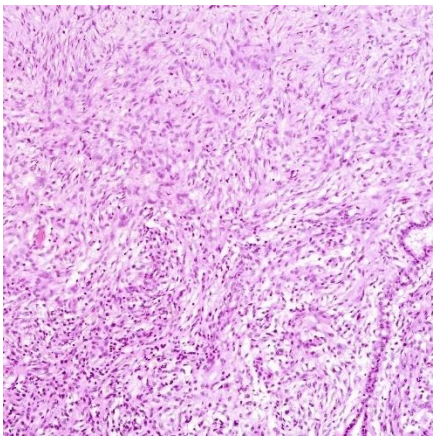

Figure 6 Histo-pathological images of Huge Progressive Breast Primary Phyllodes Tumor

3. DISCUSSION

Phyllodes tumor (PT) was first described by Muller in 1838 (Barth, 1999). It accounts for 0.3% to 1% of all tumors, with an incidence of about 2.1 per million. PT arises nearly exclusively in the female breast (Chaney et al., 2000). Incidence increases in women with 35-55 years of age (Shpitz et al., 2002). Cystosarcomaphyllodes is the other term although the use of this term is daunted. Clinically, phyllodes tumors are frequently presented as a rapidly growing painless mass. The phyllodes tumors can resemble fibroadenomas and the distinction between phyllodes tumor and fibroadenoma is clinically important, as these two tumor types require different treatment options. Although ulceration it's rare in PT, our case presented with ulceration, with the ambiguity of the histopathology result it added to the difficulty of the diagnosis. It's difficult to differentiate phyllodes from fibroadenoma, including anatomopathological aspects of fragments obtained through core biopsy, as in our case (Belkacémi et al., 2008).

PT is biphasic lesions consisting of a stromal and epithelial component, arranged in a slit-like space surrounded by an increased growth of mesenchymal cells (Chao et al., 2019). As per the World Health Organization (WHO) classification of tumors of the breast 2012 a PT was defined as a fibroepithelial tumor with the following four criteria: presence or absence stromal overgrowth, degree of stromal cellularity and cellular atypia, mitotic activity per 10 high power fields (HPFs) and the nature of tumor borders. Phyllodes tumor can generally be classified as benign, borderline and malignant. Benign phyllodes tumor most common (60 - 75%), followed by borderline (15 - 26%) and malignant (8 - 20%) tumors (Wang et al., 2018).

They have a tendency to grow aggressively. It has an average size of 5 cm, yet lesions of more than 30 cm have been hardly reported (Tan et al., 2016). Overall, 10 cm or more is defined as a giant tumor. Several studies have reported that malignant phyllodes tumor has a larger diameter compared to benign and borderline ones; however this relation between the size and the aggressive biology is not uniforms (Garlet et al., 2019). About 20% patients have palpable axillary lymph nodes in clinical examination, but then only 5% are pathologically confirmed lymph node metastasis; which usually associated with the malignant tumor (Strode et al., 2017).

The clinical suspicious in the history is the main stem of diagnosis as there are no mammographic abnormalities or ultrasonographic pathognomonic signs. In mammography, these lesions commonly present as voluminous iso-dense mass to breast parenchyma, circumscribed, which perhaps associated with calcifications. In ultrasound, there is a substantial overlap in the sonography features of phyllodes tumors. Nevertheless, borderline and malignant phyllodes tumors were disproportionally represented as irregular masses with non-circumscribed margins (Narla et al., 2018).

Phyllodes tumors with malignant potential can behave like sarcomas with hematogenous spread to various organs, commonly the lungs, followed by bone, and abdominal viscera (Zhao et al., 2021). The majority of phyllodes tumors have been described as benign (35% to 64%), with the remainder divided between the borderline and malignant subtypes. The main stay of phyllodes tumor management consisted of surgical excision with wide tumor-free margins, as recurrent malignant tumors seem to be more aggressive than the original tumor. However, in our case as the diagnosis was not certain (Liu et al., 2020).

The role of adjuvant treatments is must be considered on a case-by-case basis. It is necessary to follow up the patients with borderline and malignant nature, as there is a risk of local and distant metastasis. Adjuvant radiation therapy has been offered to patients with malignant phyllodes tumors on an individualized basis, although being associated with reduced local recurrence, and had no impact on disease-free or overall survival. Chemotherapy is not usual part in treatment course (Narla et al., 2018).

4. CONCLUSION

A phyllodes tumor showed positive surgical margins to be the only independent predictor of recurrence. For our case we had cm. Tumor size and mitotic activities were found to be independently prognostic of local recurrence. Even with wide surgical resection, the local recurrence rate remains as high as 8 to 36%. Furthermore, recurrent phyllodes tumors can progress toward more malignant phenotypes, in which metastases have been estimated to occur in up to 25% of patients.

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Author Contributions

Dr Nuha conceptualized and designed the study, drafted the initial manuscript, and reviewed and revised the manuscript. Designed the data collection instruments, collected data, carried out the initial analyses, and reviewed and revised the manuscript. Conceptualized and designed the study, coordinated and supervised data collection, and critically reviewed the manuscript for important intellectual content. Approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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Conflict of Interest

The authors declare that there are no conflicts of interests.

Informed consent

Written & Oral informed consent was obtained from all individual participants included in the study. Additional informed consent was obtained from all individual participants for whom identifying information is included in this manuscript.

Data and materials availability

All data associated with this study are present in the paper.

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