

Extensive Giant Malignant Phyllodes Tumor Misdiagnosed as a Fibroadenoma: A Case Report and Literature Review

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Received: June 04, 2026; **Accepted:** June 27, 2026; **Published:** July 05, 2026

Abstract

Phyllodes tumors of the breast are rare, accounting for less than 1% of all breast neoplasms. These tumors may resemble benign fibroadenomas, exhibit aggressive local recurrence, or metastasize as malignant lesions. Ulceration of phyllodes tumors can result in significant pain, infection, malodor, profuse discharge, and hemorrhage, all of which severely compromise quality of life. Presentation as a fungating or 'ruptured' breast mass is particularly uncommon. This report describes a challenging case involving a large, fungating malignant phyllodes tumor that was initially misdiagnosed as a fibroadenoma.

Keywords: Phyllodes; Tumor; Misdiagnose; Fibroadenoma; Aggressive; Breast; Giant

Introduction

Phyllodes tumors are rare breast neoplasms characterized by a biphasic composition, consisting of a malignant stromal component and a benign epithelial component [1-2]. The cellular arrangement exhibits a distinctive leaf-like architecture, which is the origin of the tumor's nomenclature. Phyllodes tumors constitute about 0.3–1% of all breast tumors and 2–3% of fibroepithelial breast lesions. Most of the latter are fibroadenomas [3-4]. Initially described in the 18th and 19th centuries as cystosarcoma phyllodes, these tumors are now classified by the World Health Organization (WHO) as 'phyllodes tumors.'

The WHO also classifies them as benign, borderline, or malignant based on factors like stromal cellularity, atypia, mitotic activity, stromal overgrowth, and tumor margins [5-6]. Phyllodes tumors predominantly affect women aged 35 to 55 years and typically present as rapidly enlarging, firm breast masses that may resemble fibroadenomas [7-8]. Cytological evaluation is frequently inconclusive; therefore, core needle biopsy and surgical excision are generally required for definitive diagnosis. This approach facilitates differentiation from other breast lesions, including fibroadenomas, primary breast sarcomas, and spindle cell metaplastic carcinomas. Most phyllodes tumors are benign, and management strategies are individualized [9-10]. This report presents a challenging case involving a large, ulcerating malignant phyllodes tumor initially misdiagnosed as a fibroadenoma.

Case Presentation

A 47-year-old, otherwise healthy female patient presented with a fungating left breast mass associated with mild bleeding for one week. The patient initially noticed a left breast lump in the same location one year prior to her presentation to our facility. At that time, the lump was biopsied and reported as a fibroadenoma. Over the last 4 months, the patient has demonstrated rapid enlargement of the mass; however, she has not sought further medical attention. One week prior to her presentation to our OPD, the mass became fungating, foul-smelling, and associated with bleeding. On clinical assessment, the entire left breast was occupied by a large mass measuring approximately 20 × 15 cm, with a fungating component over the central portion. The fungating component was irregular, pedunculated, non-tender, and actively oozing. The Rt breast and both axillae were clinically unremarkable (Figure 1).



Figure 1: On examination the left breast revealed a large mass engulfing the whole breast about 15*15 cm and fungating at 12-1 o'clock 2cm from NAC the mass irregular in shape and oozing attached by pedicle which is contacted at the bass.

Work Up

Bilateral breast Ultrasound showed multiple small, well-defined oval hypoechoic lesions, consistent with fibroadenomas, and homogeneous fibroglandular tissue within the right breast. However, ultrasound imaging of the Left breast was limited due to the presence of the large fungating mass; US showed a heterogeneous, vascular lesion replacing the breast parenchyma and extending to subcutaneous tissue, with no evidence of axillary lymphadenopathy bilaterally.

- For better radiologic assessment of the lesion, a contrast-enhanced CT scan was done, which demonstrated a large heterogeneous left breast mass (~10 × 17 × 18 cm) with skin ulceration and internal air locules suggestive of necrosis and/or secondary infection. The mass was inseparable from the chest wall musculature with no evidence of rib invasion or regional lymphadenopathy (Figure 2).

- Under local anesthesia and complete aseptic conditions, excision of the pedunculated fungating component was done as a palliative measure to control bloody oozing, foul-smelling, and to obtain tissue for diagnosis in addition to multiple core biopsies in the same setting. The histopathology result showed Features suggestive of a fibroepithelial lesion (fibroadenoma vs. phyllodes tumor). with ulceration, hemorrhage, and stromal myxoid changes.

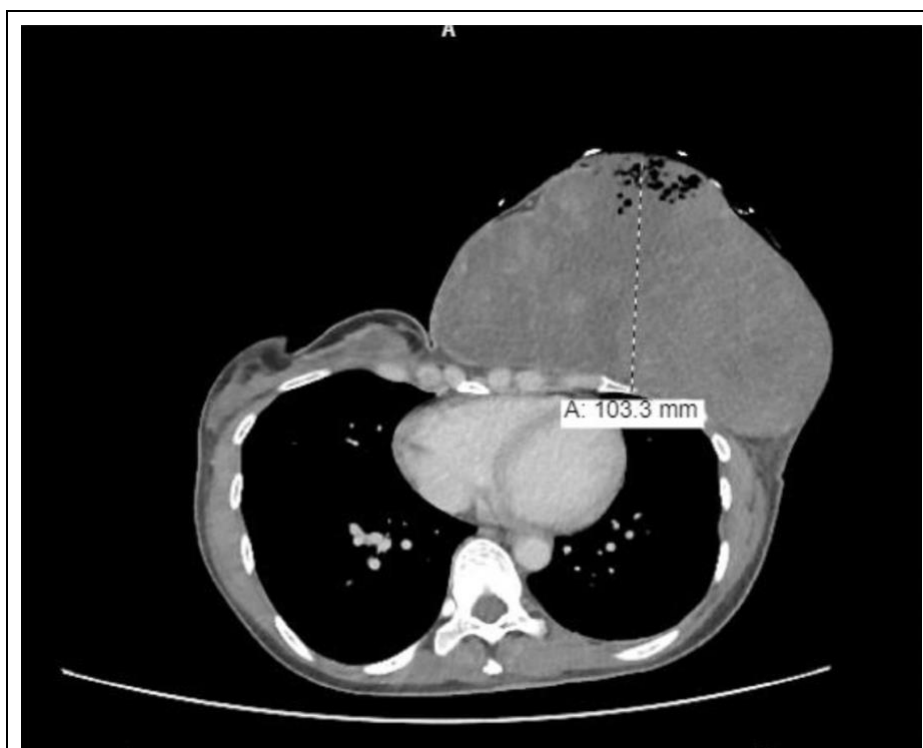


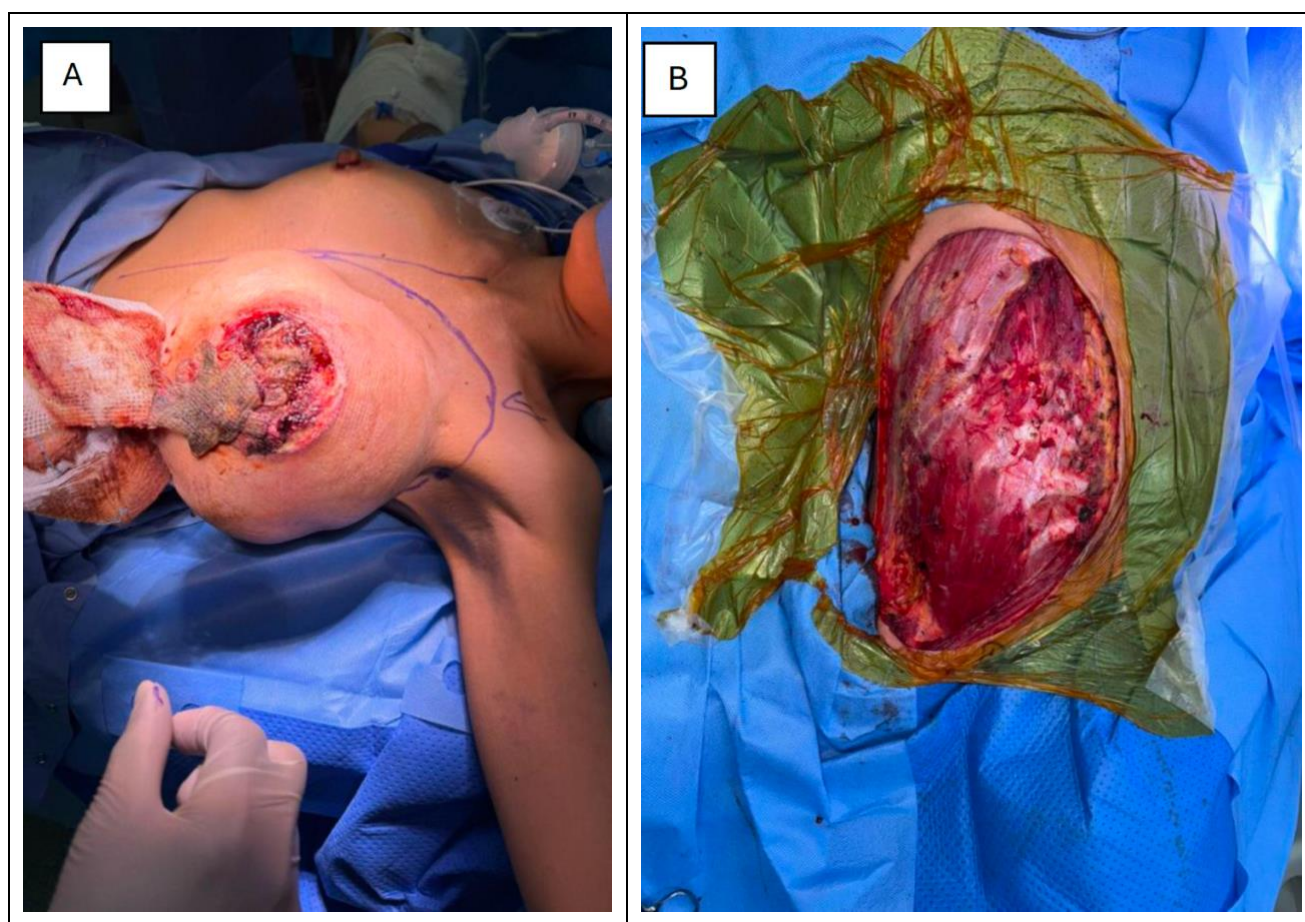
Figure 2: The axial view of CT with IV contrast showed a very large heterogenous left breast mass measuring approximately 10*17*18cm with overlying skin ulceration and internal Air lobules that suggestive of tumor necrosis / 2nd infection. The mass is inseparable from the chest wall musculature. No evidence of boney invasion and no pathological enlarged mediastinal, hilar or supraclavicular lymph nodes. No axillary lymph node was identified.

Management

The case was discussed in MDTA and underwent Left total mastectomy with resection of the underlying pectoralis major muscle and a large area of surrounding anterior chest wall skin to obtain grossly negative margins. This form of extirpative surgery results in a very large defect. The defect was reconstructed using a latissimus dorsi fascio-myocutaneous flap combined with a dermal substitute. Two weeks later, An A additional coverage using split-thickness skin grafting was done (Figure 3A-D).

The Final Histopathology Report

Grossly revealed a large, malignant-looking tumor measuring $20 \times 15 \times 9$ cm, occupying most of the breast with skin ulcerating. Microscopically, the tumor showed characteristic phyllodes architecture with stromal overgrowth, focal marked atypia, necrosis, and heterologous chondrosarcomatous differentiation, consistent with malignant phyllodes tumor. All surgical margins were free of any tumor cells. The patient was referred to the radiation oncology department for adjuvant radiation therapy. Meanwhile, she was kept under close follow-up.



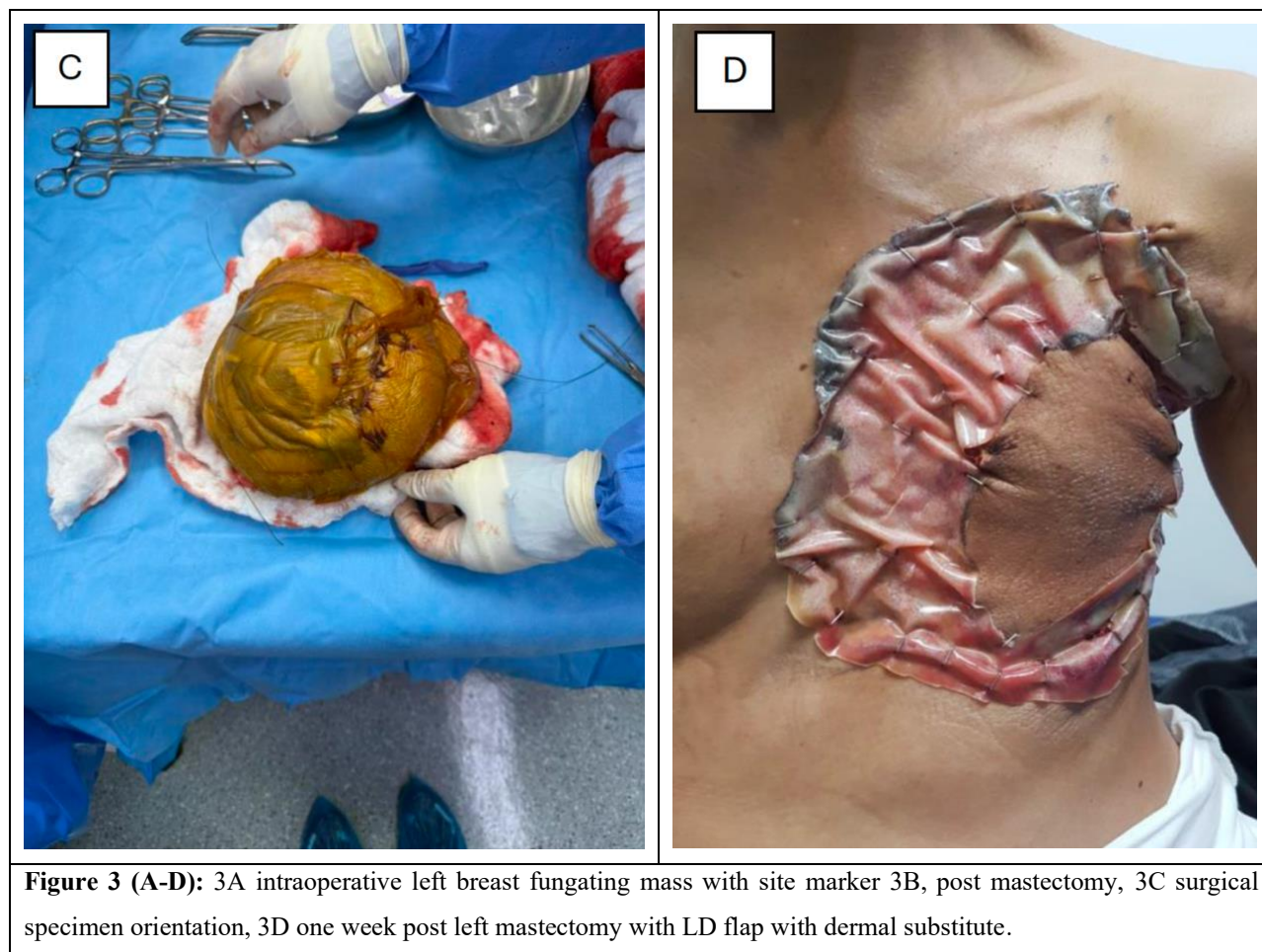


Figure 3 (A-D): 3A intraoperative left breast fungating mass with site marker 3B, post mastectomy, 3C surgical specimen orientation, 3D one week post left mastectomy with LD flap with dermal substitute.

Discussion

This report presents a case of a giant fungating malignant phyllodes tumor (MPT), a rare fibroepithelial breast neoplasm accounting for less than 1% of all breast tumors and approximately 2.1 cases per million individuals annually [11,14]. These tumors are defined by stromal overgrowth, pronounced cellular atypia, infiltrative margins, and elevated mitotic activity. The presence of heterologous sarcomatous elements is associated with a poorer prognosis [15-16]. Preoperative differentiation between MPT and fibroadenoma is often difficult, leading to insufficient initial excision. Surgical resection with negative margins is the primary treatment approach. While margins of at least 1 cm have traditionally been recommended, recent evidence is inconsistent, with some studies indicating no additional benefit beyond achieving microscopically negative margins [17-18]. Recurrence rates are significantly higher in malignant tumors, ranging from approximately 25% to 28%, compared to benign or borderline lesions. Adjuvant radiotherapy can enhance local control, especially in patients with high-risk features, although it has not demonstrated a survival benefit. Chemotherapy plays a limited role in localized disease and is primarily reserved for metastatic cases where the prognosis remains poor, with a median survival of approximately two years [19-20]. Prognosis is influenced by both histological and clinical factors, including tumor size, degree of stromal overgrowth, cellular atypia, mitotic rate, and the likelihood of recurrence. Due to the rarity and heterogeneity of MPT, additional prospective studies are necessary to optimize management and inform risk-adapted treatment strategies [21].

Two case reports have highlighted the management of giant malignant phyllodes tumors of the breast. A 2026 report described a 65-year-old female, emphasizing diagnostic challenges posed by extreme tumor size and the need for histological confirmation via core biopsy [22]. Complete surgical excision with adequate margins was identified as the primary treatment, with early recognition and appropriate surgery critical for favorable outcomes. Similarly, a 2016 report detailed a middle-aged female who underwent surgery followed by postoperative chemotherapy and radiotherapy, achieving 18 months of disease-free survival. Together, these cases underscore the importance of timely surgical intervention and suggest that multidisciplinary management may enhance outcomes, highlighting the need for future large-scale trials to define the role of adjuvant radiotherapy [23-24].

Conclusion

Diagnosing malignant phyllodes tumors is challenging because their clinical and radiological features often resemble those of fibroadenomas. Malignant phyllodes tumor may initially look like benign tumors, emphasizing the limitations of clinical, radiological and pathologic assessment. Clinicians should consider malignant phyllodes tumors in patients with rapidly growing breast masses or atypical lesions, even if the initial findings are suggestive of fibroadenoma. Early recognition, through histopathological analysis, Complete excision with clear margins, adjuvant radiation therapy, and close follow-up are crucial to avoid misdiagnosis, minimize the risk of disease progression, optimize outcomes, and reduce the risk of recurrence. This case highlights the need for vigilance and close monitoring when managing similar breast lesions.

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