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RESEARCH ARTICLE
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A CASE OF PHYLLODES TUMOR OF THE BREAST

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Abstract
Less than 1% of all breast tumors are phyllodes tumors, which are uncommon fibroepithelial neoplasms. Women in their middle years are typically affected, and they often present with a palpably expanding mass. Only 1.5% of malignant phyllodes tumors spread, despite their tendency to grow quickly. The significance of sufficient surgical margins is further supported by the fact that they are linked to a greater likelihood of recurrence than their benign equivalents. Therefore, early detection of malignant tumors is essential for timely removal and careful monitoring. Here, we describe the case of a 35-year-old woman who had a quickly expanding right breast mass that was pathologically determined to be a phyllodes tumor, despite having no known personal or family history of breast cancer. She underwent lump excision, and the biopsy revealed that it was malignant phylloides. Following that, the patient had a full body PET-CT scan, which revealed soft tissue borders in the right breast that were slightly metabolically active, implicating NAC and the underlying chest muscles. Simple mastectomy was done one and a half months later, and the skin and base were free of tumors, and the portion had negative margins.

Keywords: Malignant phyllodes tumor, breast lump, cystic solid lesion, mastectomy, Histopathological finding

Introduction

Both stromal and epithelial components proliferate in phyllodes tumors, sometimes referred to as cystosarcoma phyllodes [1], resulting in the development of a characteristic fibroepithelial lesion. A thorough approach to diagnosis and treatment is required since, although they are usually benign, a subset may display malignant characteristics such stromal overgrowth, cellular atypia, and infiltrative margins [2]. With an estimated 2.1 cases per million women, the incidence of these tumors is surprisingly low, and it is more common among Latina white women [3]. Women experience them most frequently in the latter half of their fifth decade of life, whereas men experience them even less frequently [4, 5].

Clinically, these tumors manifest as palpable breast lumps that can occasionally enlarge quickly, with a median size of about 4 cm [6]. Furthermore, on average, malignant phyllodes tumors are larger than their benign or borderline counterparts [5].

Malignant tumors had a greater chance of distant metastasis, a lower overall survival rate, and a higher incidence of disease recurrence than benign and borderline phyllodes tumors [4, 7]. Despite being more aggressive, these patients' cause-specific survival rates were 91%, 89%, and 89% at 5, 10, and

15 years, respectively. At about 50 years old, the median diagnosis age is still comparable to benign phyllodes [8].

Case Report

A female patient, age 35, came to the hospital with complaint of a lump in her right breast. The patient reported that the lump was palpable for around one and a half years, growing steadily until it recently had a notable increase in size. Exogenous hormones had not been used as a long-term treatment for the patient. Mild intermittent breast pain and severe periodic episodes of pain (rated 6/10) were linked to it; the latter were alleviated by taking medication. The patient denied experiencing any notable changes on both the breasts, including redness or thickness, nipple discharge, or nipple inversion.
She denied experiencing any other symptoms, such as headache, shortness of breath, rib or bone pain. Her family history was not significant. For the previous three months, she had been having irregular periods, but she was not seeking treatment for the same. She gave history of breastfeeding her younger child (who was 12 years in age) from the left (normal) breast exclusively.

A physical examination showed that the majority of her lateral side of right breast was occupied by a large, nontender lump measuring around 6 × 7 cm (Figure 1). There was no visible lump, inflammatory skin alterations, or abnormalities of the nipple-areolar complex in the left breast. During the examination, no axillary, infraclavicular, or supraclavicular lymphadenopathy were found. An ultrasound revealed a complicated cystic solid lesion at the 5-7 o'clock position with an intrinsic solid nodule with calcification with a differential diagnosis of phylloides tumor versus hydatid cyst,so needle aspiration/FNAC was avoided due to suspicion of hydatid cyst. CE-MRI revealed a BIRADS-IV B lesion with mixed solid, cystic, and mucinous components, with differential diagnoses of mucinous carcinoma, complex phylloides tumor, and cystic fibroadenoma.The left breast was unremarkable. The right breast revealed two additional well-defined oval tumors that were probably fibroadenoma, BIRADS-II.

Excisional biopsy was performed, and a large cystic lump measuring 8*3*5.5 cm was excised (fig. 2) along with two small lumps measuring approx. 3*3cm each. In the histopathological examination, a malignant phyllodes tumor was identified. The larger lump was of a multicellular nature with stromal atypia, with significant mitotic activity (up to 11 mitotic figures in 10 power fields), the presence of extensive necrosis fields, and the surgical margins were uninvolved. Smaller lumps came to be benign fibroepithelial lesions suggestive of benign phylloides. The postoperative period was without complications.

One month after , a whole-body PET-CT was done, which suggested mildly metabolically active irregularly marginated soft tissue thickening in the central and lower quadrants of the right breast involving the nipple-areola complex and chest wall muscles with a normal left breast.
The patient then underwent a simple mastectomy 15 days after PET-CT scan, and histopathology suggested a tiny focus of fibroepithelial tissue with leaf-like polypoidal projection without atypia and mitosis. All margins, base, and skin were free from tumors, and 4 lymph nodes were identified, which were negative for tumor deposits. The patient recovered well from surgery. Since then (14 months), no local recurrence has been observed. In the imaging examinations, distant metastases are also not described.

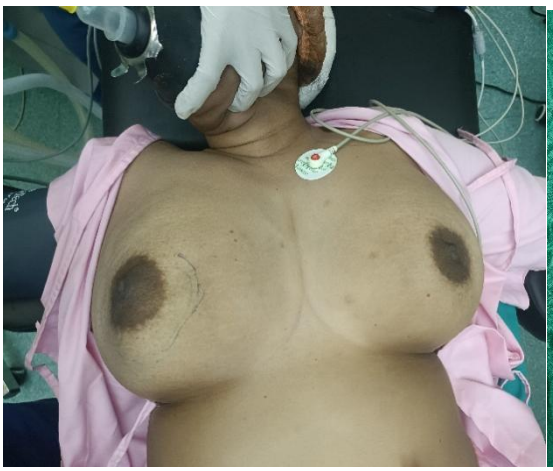

Figure 1

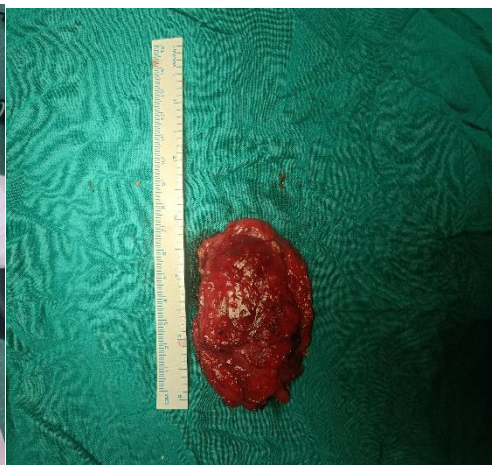

Figure 2

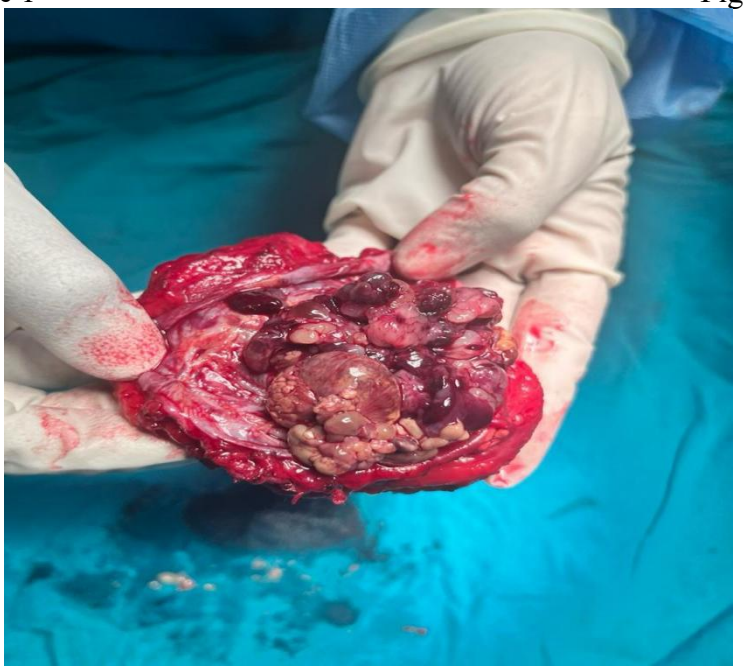

Figure 3-cut section showing multiple tiny fluid filled cystic lesions

Discussion

Rare fibroepithelial breast neoplasms known as phyllodes tumors (PT) can range in histological morphology from fibroadenoma to benign, borderline, or malignant PTs [9,10]. Based on the grotesque look of a leafy and bulky tumor, the term "phyllodes" comes from the Latin word "phyllodium," which means "leaf-like" [11,12]. In middle-aged women, they usually manifest as a palpable expanding mass that grows quickly [13,14]. The average age at presentation is 27 years for fibroadenoma, 39 for benign phyllode tumors, 42 for borderline phyllode tumors, and 47 for malignant phyllode tumors [15]. There is some correlation with discoloration and dilated skin veins [16].

Although there have been documented instances of skin and nipple involvement, skin involvement, including skin ulceration and nipple retraction, is rare [17]. Cellular pleomorphism, 0–4 mitoses, and a high power field (hpf) are characteristics of benign PTs, which comprise 35%–64% of all PTs. Borderline PTs have 5–9 mitoses/hpf, cellular pleomorphism, and mild stromal hypercellularity. Significant stromal hypercellularity, cellular pleomorphism, and more than 10 mitoses/hpf are characteristics of malignant PTs [13,18].

For patients with PTs, imaging is crucial to both the initial diagnosis and treatment coordination. Due to the limited number of tissue samples available for FNA biopsies, core-needle biopsies are superior to FNA biopsies in the diagnosis of PTs [19]. FNA may miss PTs, which exhibit a high level of stromal cellularity [20]. For PTs, surgical resection is the preferred course of treatment. In the past,

the recommended course of treatment for borderline and malignant PTs was mastectomy. These days, if a clean surgical margin is obtained, breast-conserving surgery (BCS) is deemed successful [21].

Following a mastectomy, She did not mention any new pain, redness, discomfort, or palpable lumps. Adjuvant radiation therapy was not sought because the patient had a complete mastectomy. However, if the patient had undergone breast-conserving surgery, some authors have proposed that adjuvant radiation therapy could lower the probability of local recurrence from 18% to 3% [22]. Ongoing surveillance is crucial for individuals with large tumors and positive margins since these characteristics have been linked to a high probability of distant metastasis and local recurrence [23].

Conclusion

Because initial breast cancers in females are distinct and rare, proper evaluation and treatment are essential to avoid misdiagnosing severe, uncommon tumors. Because of their rapid growth and potential for malignancy, uncommon tumors like phyllodes tumors require careful diagnosis and timely treatment. A biopsy is required to describe the suspect mass, although key signs including a large and fast developing tumor can help with this diagnosis.

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