

# MALIGNANT TRANSFORMATION OF RESIDIVE PHYLLODES BENIGN TUMOR: A CASE REPORT

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**Abstract:** Phyllodes tumor is a fast-growing tumor that has a big potential to be malignant. Malignant transformation of phyllodes tumors that were previously found to be benign has been reported, but there have been no reports stated transformation in such a short time. In this study, we reported a 34-year-old woman presented with complaints of a painless lump in her right breast, which had been felt since five years ago. Ultrasound examination and initial biopsy showed the breast lump as a benign phyllodes tumor. The patient then underwent a simple mastectomy with reconstruction, a clear safety margin, and axillary lymph node biopsy. Unfortunately, three months after the surgery, an additional breast lump reappeared. Computed tomography scan of the chest with contrast and further histopathology showed a malignant phyllodes tumor of lung and bone metastases. The patient was then planned to undergo palliative chemotherapy and radiotherapy. Reflecting on this case, appropriate diagnostic steps and staging is a compulsory step before any prompt surgical intervention to determine the appropriate treatment.

**Keywords:** surgery, malignancy, case reports, oncology, phyllodes tumor.

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## 1. INTRODUCTION

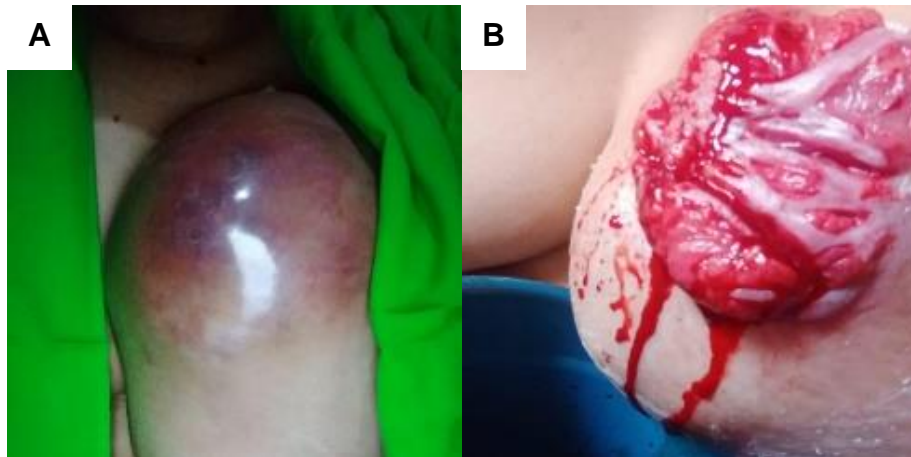
Phyllodes tumors is a rare breast fibroepithelial tumors with an incidence of <1% of all breast tumors and 2.5% of fibroepithelial tumors.<sup>1</sup> About 20% of the population have a mass larger than 10 cm, and the tumor can occasionally reach an expanse of 50 cm.<sup>1,2</sup> WHO classification distinguishes phyllodes tumors into three histological subtypes: benign, borderline and malignant.<sup>3</sup>each covering 58.4-74.6%; 15.0-16.1%; and 9.3-31% of all phyllodes tumors.<sup>2</sup> Although most phyllodes tumors are benign, 20% of them underwent a malignant transformation.<sup>1</sup>Phyllodes tumor behaviour varies depending on histological grade, and it can be challenging to differentiate between benign, borderline, and malignant tumor and it does not always reflect the clinical features.<sup>2,4</sup>

Local recurrence is a significant problem in the management of phyllodes tumor, which occurs in approximately 15% of cases. Local recurrence tends to occur within the first few years following surgery, particularly if the initial excision was insufficient. Although local recurrence is more common, distant metastases are found to occur with a probability of approximately 10%.<sup>2</sup>Benign phyllodes tumors are far less likely to present with a local recurrence and distal metastases than a malignant phyllodes tumors.<sup>4</sup> Malignant transformation of recurrent benign phyllodes tumors has been reported in two case reports.<sup>1,2</sup>

In this study, we present a case of benign phyllodes tumor of the breast, which transformed into a rapidly growing malignant tumor in a 34-year-old woman. The rapid transition from benign to malignant at the same site in this case is what makes it interesting. This case can be considered for future research in investigating the natural course of phyllodes tumors of the breast. The requirements for a surgery case report (SCARE) have been fulfilled in reporting this case study.<sup>5</sup>

**Case Illustration**

A 34-year-old female patient came with complaints of a lump in her right breast that had been felt since five years ago. Initially the lump was said to be the size of a corn kernel, then progressively grow larger for approximately two months before being admitted to the hospital. Even during menstruation, the patient did not express any complaints about breast pain. A few weeks later, the patient reported that a new, small lump and ulcer started appearing on her bleeding nipples. History of trauma to the chest was denied. The patient denied of experiencing weight loss and loss of appetite. Physical examination showed both breasts were asymmetrical. A mass the size of an orange, well defined, hyperemic skin, smooth and shiny skin surface, measuring 15 x 10 x 6 cm, with a dense consistency, mobile, and no tenderness was obtained (Figure 1A).

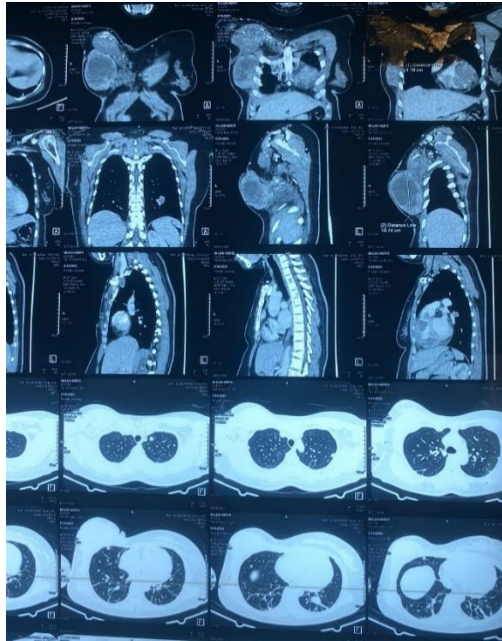


**Figure 1. Clinical picture of right breast lump.**

The results of the initial biopsy and ultrasound examination revealed a benign phyllodes tumor. The patient then underwent a simple mastectomy with thoracoabdominal flap reconstruction and axillary lymph node biopsy. After 3 months of surgery, the patient came back with complaints of a lump that reappeared on the right side of the chest after the operation (Figure 2). The patient also complains of the emergence of a new wound at the seam site, and the lump appeared to be expanding and painless. Fine needle aspiration biopsy (FNAB) was performed and suggested a malignancy with a differential diagnosis of sarcoma or carcinoma. Armed with these information, a computed tomography (CT) scan with contrast was performed (Figure 3) and a mass suggestive of malignancy with multiple malignant lymphadenopathy in the axillary region to the right subclavia, accompanied by metastases to the right lung and thoracic vertebral bodies (TNM stage T4N3M1) was obtained. Finally, an open biopsy was conducted and revealed that it was a malignant phyllodes tumor. Palliative chemotherapy and radiotherapy were then planned for the patient.



**Figure 2. Clinical tumor post MRM. Front view (A) and side view (B).**



**Figure 3. Chest CT scan with contrast.**

## 2. DISCUSSION

Phyllodes tumors typically represent as a benign breast lumps, however they can grow rapidly in certain circumstances. Despite the fact that the lesion has been there for a long time, it occasionally goes through a growth spurt. In rare cases, phyllodes tumors may be accompanied by a bluish discoloration, dilation of blood vessels in the skin, ulcers, nipple retraction, or enlarged lymph nodes in the axillary region. Cases of involvement of the nipple-areola complex or skin ulcers are rarely reported. Breast lumps usually represent as the primary symptom and this lump typically discovered in the upper outer quadrant of the breast. Bilateral findings are uncommon, occurring in only 1.8% of cases. Phyllodes tumor sizes vary, ranging from 0.5 to 30 cm with an average size between 5 to 7.2 cm.<sup>4</sup>

Several case reports were assessed and confirmed the ability of benign phyllodes tumors to develop into malignant tumors. Tan et al. reported that 18.9% of patients with early benign phyllodes tumors developed into recurrent borderline or malignant tumors<sup>6</sup> and Barrio et al. reported that 26.1% of patients had the same characteristics.<sup>7</sup> Similar to this case report, Soo-Hyun et al. reported a breast mass initially detected as a benign phyllodes tumor, but when it recurred, histopathology revealed a multifocal malignant tumor. Several studies have documented recurrent malignant tumors as a benign or borderline tumors, emphasising that surgical excision is still recommended regardless of the tumor's initial histology.<sup>8</sup> Widya et al. reported a similar phenomena in a case series. Pathological examination revealed a carcinoma within the phyllodes tumor after performing a definitive surgery. This is most likely due to the fact that phyllodes tumors develop rapidly and can become quite large in size. Therefore, extensive sampling is required in the diagnosis of phyllodes tumor, not only to comprehensively study the stromal component in order to identify subtypes, but also to diagnose malignant epithelial transition in identical lesions elsewhere.<sup>9</sup>

Cytological investigation with biopsy is regarded as unreliable in the histopathological diagnosis technique. Fine needle aspiration cytology (FNAC) cannot be used to differentiate a phyllodes tumor from fibroadenoma.<sup>4</sup> For this reason, either a permanent or an intraoperative frozen section must be obtained for an accurate diagnosis. In order to differentiate between phyllodes tumors and fibroadenomas, a core needle biopsy is a common first step. The preferred method of preoperative diagnosis of big tumors in the breast is core needle biopsy, which has a sensitivity of 99%, a negative predictive value of 93%, and a positive predictive value of 83%. However, many experts insist that when clinical suspicion remains after core needle biopsy, excisional biopsy should be considered.<sup>8</sup>

Metastatic-related survival in phyllodes tumors was found to be poor, with various case series reporting median survival ranging from 4–17 months, with great variability depending on the site of metastases. According to case reports and previous studies, the prognosis of malignant phyllodes tumors in the breast is usually poor, although the prognosis of benign tumors is generally good. Another large prospective study has reported 5-year disease-free survival rates of 96% for benign phyllodes and 66% for malignant phyllodes. Most sarcomas metastasize haematogenously, and the incidence of axillary lymph node involvement in malignant phyllodes tumors ranges from 1.1-3.8%.<sup>10</sup>

There is currently no consensus on radiotherapy, hormone therapy, or systemic chemotherapy recommendations for the treatment of malignant phyllodes tumors. There have been no double-blind multicenter studies conducted in people with these tumor features, yet. According to the National Comprehensive Cancer Network (NCCN) recommendations, the majority of case reports and research describe the treatment of these tumors exclusively by extensive local excision.<sup>10</sup>

This case report is unique in that it presented illustrations regarding the new clinical course of phyllodes tumors, including the possibility for transformation from benign to malignant in a short period of time and metastases to other tissues or organs. Another aspect of this case report is that the diagnostic method is carried out systematically using several modalities, including radiography and histology. However, this case report is not free from flaws and limitations. This case report is unable to dive further on the patient's entire medical history, which may be considered a risk factor for the development of phyllodes tumor. Since the scope of this case study is restricted to experience with one patient, any generalisations of the data and conclusions stated will still need proof in research with a larger scope.

The clinical lesson from this case is that it's important to understand that phyllodes tumors might experience unpredictably pathogenic alterations, even in cases that were previously categorised as benign. In this case, early diagnosis and staging of phyllodes tumor through adequate diagnostic steps are essential to determine the appropriate treatment.

### 3. CONCLUSION

Phyllodes tumors have a tendency to rapidly transform from benign to malignant and to extend to other tissues or organs. A comprehensive diagnostic strategy using radiographic and histological modalities is required in order to accurately diagnose a phyllodes tumors. Early detection and staging of phyllodes tumors through suitable diagnostic methods are essential for determining the appropriate treatment.

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