

A STUDY ON PHYLLODES TUMOR IN A TERTIARY CARE CENTRE IN MANIPUR: A CASE SERIES

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Corresponding Author:
Dr. Ranjita Achom,
 Email: ranjitaachom@gmail.com

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Padma Sundari Poorasamy¹, Khumallambam Ibomcha Singh², Ranjita Achom³, Ngangbam Bojen⁴, Jenifer Sanasam⁴

¹PGT, Department of Surgery, JNIMS, Imphal, Manipur, India.

²Assistant Professor, Department of Surgery, JNIMS, Imphal, Manipur, India.

³Associate Professor, Department of Surgery, JNIMS, Imphal, Manipur, India.

⁴Senior Resident, Department of Surgery, JNIMS, Imphal, Manipur, India.

ABSTRACT

Background: Phyllodes tumor of the breast is an uncommon fibroepithelial neoplasm, accounting for 0.3% to 0.5% of female breast tumors, with an annual incidence of about 2 per million women. Malignant phyllodes tumor is a rare and potentially aggressive breast neoplasm which is a malignant differentiation of phyllodes tumors, resulting in cases of extremely rare heterologous sarcomatous differentiation. In this study we will discuss about phyllodes tumor in middle aged females in Manipur. In addition, phyllodes tumor particularly malignant ones are rare to diagnose and treat, this case series will help us have a deeper insight of the condition. **Materials and Methods:** This cross-sectional study was conducted in a tertiary care centre (Jawaharlal Nehru Institute of Medical Sciences, Imphal, Manipur) for a duration of 2 years from May 2024 to April 2026. A total 15 histologically confirmed cases of phyllodes tumor were included in the study. **Results:** The mean age of diagnosing the cancer in this study was 39. Most patients with benign and borderline counterpart had a symptom duration of about 6-10 months, while malignant case suddenly progressed over 3 months. **Conclusion:** Histopathological grading remains the cornerstone for diagnosis and prognostic assessment. Our case series highlights the importance of early diagnosis, appropriate surgical management, and individualized follow-up in reducing recurrence and optimizing outcomes.

INTRODUCTION

Phyllodes tumor: first called cystosarcoma phyllodes/ serocystic disease of Brodie's, this tumor contains a biphasic proliferation of stromal and mammary epithelium and it usually follows a benign course. Phyllodes tumour (PT) is an unusual primary breast tumour constituting less than 1% of total breast tumours and 2–3% of all fibroepithelial breast tumours, with reported incidence of 1 in 100,000.^[1,2] In 1981 the World Health Organization adopted the term phyllodes tumor and subclassified them histologically as benign, borderline, or malignant. The majority of phyllodes tumors have been described as benign (35% to 64%), with the remainder divided between the borderline and malignant subtypes.^[3,4] Generally, phyllodes tumor presents as a rapidly growing and clinically benign breast lump in females within the fourth or fifth decade of life. Malignant phyllodes tumor of the breast, as opposed to its benign counterpart, can be characterized by an unusually aggressive course and has been reported to

recur locally and have the capacity for distant metastasis.

Phyllodes tumor usually compresses the surrounding tissue from which it is usually well demarcated. The bulk of this tumor is connective tissue with mixed gelatinous cystic and solid areas, the number of mitoses may help in the diagnosis of the malignant subtype. Phyllodes tumors often present a diagnostic and treatment dilemma. Depending on malignant potential, bulky tumor, recurrence, and status of resection margins, the treatment may vary between wide local excision with 1cm breast tissue or radiotherapy.^[5,6]

Case Presentation

During the period of 2024-26, we observed 15 histologically confirmed phyllodes tumors cases. Among them, 01 was malignant, 03 were borderline and the remaining were benign.

A 63-year-old post-menopausal nulliparous married female presented with a progressive swelling over right breast for 3 months, Ultrasound of bilateral breasts were inconclusive because of larger size of the breast. Fine Needle Aspiration Cytology (FNAC)

of the right breast swelling suggested malignant phyllodes tumor with cystic degeneration. Right simple mastectomy under GA was done, tumor weighed about 3 Kg. Histopathological Examination (HPE) turned out to be a malignant phyllodes tumor. [Figures 1-3]



Figure 1: Intraoperative image of a phyllodes tumor



Figure 2: Pathological processing of PT

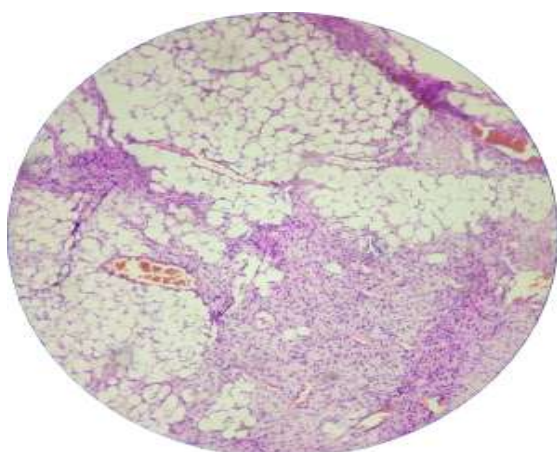


Figure 3: HPE of MPT

A 45-years-old married female presented with a lump over right breast (Lower Inner Quadrant) for over 10

months, FNAC was suggestive of phyllodes tumor. Simple excision was done and was sent for HPE which showed Benign phyllodes tumor. [Figure 4]



Figure 4: Post excision of BPT

The mean age of diagnosing the cancer in this study was 39 years. Most patients with benign and borderline counterpart had a symptom duration of about 6-10 months, while malignant case suddenly progressed over 3 months. Most patients were multiparous with no significant family history. All the patients after proper investigation underwent simple excision to mastectomy based on tumor characteristics. Lymphadenopathy was not seen in any of the cases. The awareness about the tumor was very less among these patients. [Figure 5]

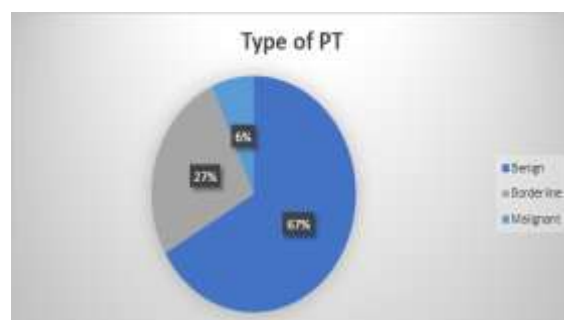


Figure 5: Distribution of types of phyllodes tumor

Among the 15 cases we diagnosed, 10 were benign, 4 were borderline and only 1 was malignant as per the grading criteria of WHO for phyllodes tumor (Table 1). A total of 03 cases among benign and 01 among malignant underwent mastectomy, while others underwent simple excision. All the cases were followed up later.

Table 1: Grading criteria of the World Health Organization for phyllodes tumors^[7]

	Benign	Borderline	Malignant
Mitoses/10 HPF	0–4	5–10	>10
Tumor borders	Pushing	Pushing or focally infiltrative	Diffusely infiltrative, permeative
Stromal atypia	None to mild	Mild to moderate	Marked
Stromal overgrowth	None	Focal/moderate	Marked/diffuse
Stromal cellularity	Mild	Moderate	Marked/high
Malignant heterologous stromal elements	None	None	Present

DISCUSSION

Phyllodes tumors occur at any age, from 10 to 90 years with a peak incidence between 30 and 40 years (a decade later than the average presentation of fibroadenoma). The peak incidence was found to be between 39 years of age in our study which is similar to most of the studies given in the reference. A painless mass with an average size of 4 - 5 cm in the breast is the typical presentation for these tumors.^[8] Radiographic imaging cannot definitively differentiate amongst the three forms of PT or from other benign breast conditions. Borderline PT show a greater degree of atypia when compared to benign. Borderline phyllodes have demonstrated the highest rate of recurrence after surgical intervention.^[6]

The discrimination between malignant PTs and the other two subtypes (benign and borderline) is even nowadays challenging, especially considering two cornerstones in tumor identification and surveillance as mammography and US. Besides, MRI can be really helpful to clarify the risk of PT malignancy.

In literature, benign, borderline, and malignant tumors were determined in 72.7%, 18.4%, and 8.9% of the 605 patients in a large case series respectively,^[9] whereas another study reported benign, borderline, and malignant PTs in 60%, 20%, and 20% of the patients, respectively.^[10] In our study, the rates of the benign, borderline, and malignant tumors were found to be 67%, 27%, and 6% respectively.

According to the National Comprehensive Cancer Network (NCCN) guidelines for breast cancer, the management for PT > 3.0 cm is with surgical excision with clear margins of at least 1.0 cm without axillary staging, regardless of the phyllodes sub-category.^[11] Previous literature has demonstrated a recurrence rate of PT as high as 40% when surgical resection is performed with margins under 1 cm. In contrast to resection with tumor free margins, the recurrence rate is less than 13%. Recurrence with PT is particularly higher when the tumor size is larger than 10 cm.^[8]

The size of malignant phyllodes in our study was 30X30 cm – giant phyllodes tumor which was similar

to the literature. In the literature, the tumor size varies between 05 and 270 mm, with a mean size between 50 and 72 mm. Tumors with a size reaching up to 450 mm have been described by Rajan PB et al and Matar N et al.^[12,13]

Foxcroft et al in their study concluded that PTs are characterized by a rapid growth during the surveillance period. Consequently, the identification of a fast-growing pattern in the differential diagnosis between PTs and other lesions, such as fibroadenomas, could be crucial in the decision-making process.^[14]

A wide surgical excision represents the first-line treatment: margins must be greater than 1 cm to be curative and lower the risk of local recurrence.^[11] Axillary dissection is not routinely recommended considering the rarity of lymphatic and node metastases. In case of unclear preoperative diagnosis, with consequent non-oncological resection, a further surgical procedure is mandatory to obtain clear margins.

Adjuvant radiotherapy may be required in high-grade PTs, especially when negative surgical margins are not achieved. Use of systemic chemotherapy is still a matter of debate and its administration has to be decided on a case-by case basis, especially in multi-recurrent and metastatic diseases.^[15]

Sevda Yilmaz concluded in their study that close and meticulous follow up is required in patients aged below 30 years of age, particularly in the patients with multiple FAs-like masses, because of technical and cosmetic difficulties, as well as the non-necessity of excision of all these masses.^[16] They recommended the arrangements of more frequent follow-up examinations with short intervals, application of trucut biopsy in the masses with rapid growth, and performance of excision in the cases with a definite result without waiting longer.

Matar N et al,^[13] in 1995 observed 03 cases of lymph node involvement among 09 lymph node clearances, whereas Kapisir I et al in 2001 showed no lymph node invasion among 21 patients with malignant phyllodes tumor undergoing lymph node dissection.^[17] Patients in our study showed no lymph node involvement.

Sarcomatous transformation can occur during recurrence after resection of benign or borderline phyllodes tumor which was explained by Reinfuss M et al,^[18] Moffat CJ et al reported that patients with local recurrence do not develop distant metastases.^[19] On the contrary, Kapisir I et al, Hajdu SI et al and West TL et al showed that among patients having metastases, 60% to 85% had already developed local recurrences but our study showed no metastasis in the malignant phyllodes recurred after 02 years.^[17,20,21]

CONCLUSION

Phyllodes tumors are rare fibroepithelial breast neoplasms with variable biological behaviour. Histopathological grading remains the cornerstone for diagnosis and prognostic assessment. Complete surgical excision with adequate margins is the mainstay of treatment, with the extent of surgery guided by tumor size, grade, and local extent. Tumor grade correlates with recurrence risk, emphasizing the importance of accurate pathological assessment. Local recurrence remains an important concern, particularly in borderline and malignant tumors and in cases with inadequate margins. Long-term clinical and radiological follow-up is essential, even after apparently complete excision. Our case series highlights the importance of early diagnosis, appropriate surgical management, and individualized follow-up in reducing recurrence and optimizing outcomes. Larger, multicentric studies with longer follow-up are needed to better define prognostic factors and standardize management strategies. The main limitation of this study are the inclusion of small number of cases and short duration of follow up. The accuracy and depth of a study gets significantly reduced when the cases are too small with short period of follow up.

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