

## POSTMENOPAUSAL WOMEN WITH PHYLLODES OF BENIGN ORIGIN IN THE BREAST REGION – A CASE REPORT AND REVIEW OF LITERATURE

*Dr Evangeline Cynthia D<sup>1</sup>, Dr Ajitha G MD<sup>2</sup> & Dr. Mary Lilly MD<sup>3</sup>*

*<sup>1</sup>MBBS (MD PATHOLOGY) (Corresponding author), Department of Pathology, Sree Balaji Medical College and  
Hospital, Chrompet, Chennai-600044, Tamilnadu, India*

*<sup>2</sup>Assistant Professor, Department of Pathology, Sree Balaji Medical College and Hospital, Chrompet, Chennai-600044,  
Tamilnadu, India*

*<sup>3</sup>Professor and Head, Department of Pathology, Sree Balaji Medical College and Hospital, Chrompet, Chennai- 600044,  
Tamilnadu, India*

### **ABSTRACT**

*Based on histopathological findings, World Health Organisation termed phyllodes of benign nature. Fibroadenoma might mimic phyllodes. In this case report we describe phyllodes tumour in a geriatric female of 64 years old.*

**KEYWORDS:** *Phyllodes, Breast, Pathology, Benign, Female, Fibroadenoma*

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### **INTRODUCTION**

Epithelial and stromal components of the breast constitute biphasic neoplasm. As per the World Health Organisation phyllodes tumours are of benign category. Mostly seen in postmenopausal females as a defined mass with a gradual increase in size. Sometimes they can be malignant and metastasize. In this case report we describe phyllodes tumour in a geriatric female of 64 years old.

### **CASE REPORT**

A geriatric female individual of 64 years old attended the department with swelling in the breast on the left side for 2 years. Swelling gradually increased in size to attain the current size and was associated with dragging pain.

Clinically, a firm to hard lump of 6x5cm in 10-2'0 clock position, occupies the external and top quadrant of the left breast. The swelling moved along the breast tissue with a smooth surface and well-defined border. No axillary lymph nodes were palpated. Phyllodes was the choice for clinical diagnosis. Ultrasound revealed a 6.2x5.8 cm sized well defined, lobulated, solid, cystic heterogenous lesion with specks of calcification seen in the left breast at 9'0 clock position with peripheral and internal vascularity. A modified radical mastectomy was done and the lump was excised. (Figures 1 and 2)

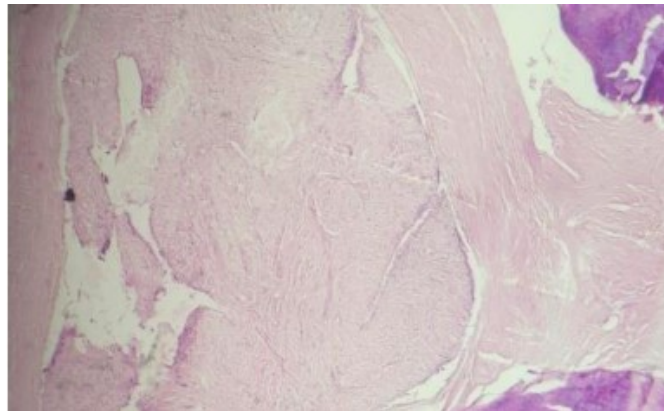


**Figure 1**

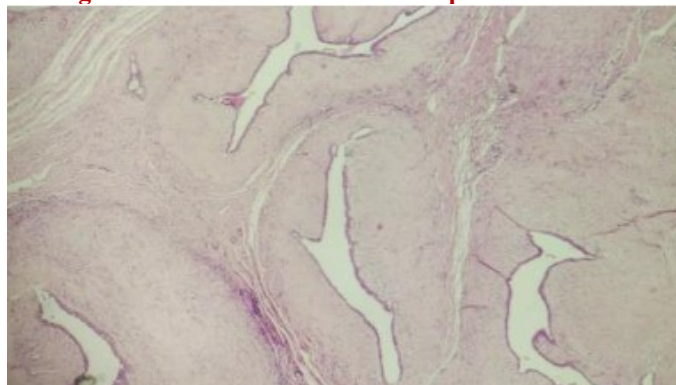
The cut section of the specimen showed multiple slit-like spaces along with a small foci of calcification. Histopathological examination revealed an encapsulated circumscribed lesion composed of elongated ducts and slit-like spaces lined by layers of myoepithelial and epithelial encircled by moderately stromal cellularity showing spindle cells with elongated and vesicular nuclei with ill-defined whorl formation and extensive hyaline changes.

Focal sclerotic areas and scattered lymphocytic infiltration were also noted. Very Few mitoses (<5/HPF) were noted.

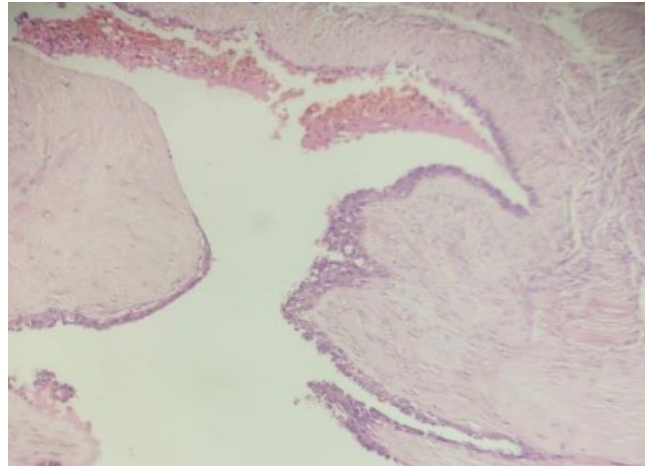
Diagnosis of Left simple mastectomy- Benign phyllodes tumour was made.



**Figure 2: H &E: Scanner View-Capsulated Lesion.**



**Figure 3: H &E: Low Power View- Leaf-Like Epithelial Pattern.**



**Figure 4: H & E: High Power View- Increased Stromal Cellularity with Areas of Haemorrhage.**

## REVIEW OF LITERATURE

Phylloides tumour comprises of mammary fibroepithelial lesions<sup>1,2</sup>. In 1827, Chelius first described the tumour<sup>3</sup>. Rosen subdivided it into benign, borderline and malignant based on histopathological features (World Health Organization) in 1981<sup>2,4</sup>. Phylloides account for 0.3% to 05% of female breast tumours involving middle-aged individuals between 45 years to 49 years<sup>2,5</sup>.

### Aetiology

Phylloides tumours have been associated with Li-Fraumeni syndrome and hormonal imbalance<sup>6,7</sup>. Trauma, lactating period, pregnancy, hyperoestrogen and lactation have been associated with tumour growth stimulation. Insulin-like growth factors and endothelin have been associated with stromal induction of phylloides tumours<sup>7,8</sup>. In benign/borderline phylloides tumours, there may be overexpression of Wnt5a in the epithelium<sup>9</sup>.

### Clinical Presentation

It can occur as a painless rapid growing mass<sup>10</sup> or as masses with slow progression. They usually manifest as a single, unilateral nodular mass which can sometimes push the chest wall due to high tumour activity<sup>11</sup>. The size ranges from 1 to 40 cm with tumours occupying the entire breast<sup>12</sup>. Few studies have reported that malignant tumors have a larger diameter compared to benign and borderline<sup>13</sup>. The overlying skin can be stretched with distension of superficial veins. Nipple ulceration, retraction and bleeding can be present<sup>12</sup>. Axillary lymphadenopathy is common but only 5% of them are pathologically confirmed with lymph node metastasis<sup>14</sup>.

### Pathophysiology

Phylloides tumors arise externally from fibroadenoma<sup>15,16,17</sup>. Genetic etiology targets +5p, -9p, -6q, +1q, -13q and -10p<sup>18,19</sup>. MDM12 somatic mutations have been reported in fibroadenoma and phylloides tumours suggesting that these tumours could have a common origin<sup>17</sup>.

### Histopathological Features

Pathognomonic features include intracanalicular growth pattern, epithelium-lined cleft space and increased stromal cellularity. Benign phylloides tumour is the most common. Uplifting and neatly defined margins are seen. Encircled

invasiveness of border present. Cases with malignancy display nuclear pleomorphism, stromal overgrowth, and increased and diffuse stromal activity. The borders are infiltrative<sup>22,23,24</sup>.

### Immunohistochemical Features

p53 expression and Ki67 index present. PAX3 and SIX1 is expressed in a few cases<sup>25,26,27</sup>.

### Diagnosis

Core needle biopsy is the routine investigation used. However, few tumours require excision biopsy. Mammography, ultrasonography and MRI are used as imaging tools for the diagnosis of phyllodes tumours. Phyllodes tumours often mimic fibroadenoma in a mammograph. Inhomogeneous, smooth walls are seen in an ultrasound. Benign and malignant entities cannot be differentiated only with imaging features<sup>28</sup>.

### Management

Surgical excision of the wider area ensures histologically clear margins are done. Mastectomy is done in malignant phyllodes tumour. Axillary nodal dissection is not necessary. Incomplete excision can lead to local recurrence. The average local recurrence rate is 15%. Further wide excision can be done for local recurrence. 96%, 74%, and 66% account for ascending five-year survival rates respectively<sup>5,29</sup>.

### CONCLUSIONS

Surgical excision plays an important role in phyllodes tumours. Methodology in relation to therapy changes as per tumour size. Limitations are present in the case of chemotherapy. Radiotherapy is of very little use.

### REFERENCES

1. Tan BY, Acs G, Apple SK, et al. Phyllodes tumours of the breast: a consensus review. *Histopathology*. 2016;68(1):5-21.
2. Mishra SP, Tiwary SK, Mishra M, Khanna AK. Phyllodes tumour of breast: a review article. *ISRN Surg*. 2013;2013:361469.
3. Chelius M. *Neue Jahrbucher Der Deutschen Medicin and Chirurgie*. Heidelberg, Germany: Naegle und Puchelt; 1827
4. Rosen PP. *Rosen's Breast Pathology*. 2nd edition. New York, NY, USA: Lippincott William Wikins; 2001.
5. Parker SJ, Harries SA. Phyllodes tumours. *Postgraduate Medical Journal* 2001;77:428-435.
6. Foucar CE, Hardy A, Siziopikou KP, Wang L, Parini V, Hansen N, Jeruss JS. A mother and daughter with phyllodes tumors of the breast. *Clin Breast Cancer*. 2012 Oct;12(5):373-7.
7. Limaiem F, Kashyap S. Phyllodes Tumor Of The Breast. In: *StatPearls*. 2021.
8. Fernández-Ferreira R, Arroyave-Ramírez A, Motola-Kuba D, Alvarado-Luna G, Mackinney-Novelo I, Segura-Rivera R: Giant Benign Mammary Phyllodes Tumor: Report of a Case and Review of the Literature. *Case Rep Oncol* 2021;14:123-133.
- 9.

10. Sawyer EJ, Hanby AM, Rowan AJ, Gillett CE, Thomas RE, Poulson R, et al. The Wnt pathway, epithelial-stromal interactions, and malignant progression in phyllodes tumours. *J Pathol.* 2002;196(4):437–44.
11. Ditsatham C, Chongruksut W. Phyllodes tumor of the breast: diagnosis, management and outcome during a 10-year experience. *Cancer Manag Res.* 2019;11:7805-7811.
12. Zhou, Z., Wang, C., Yang, Z., Yu, X., & Guo, X. (2016). Phyllodes tumors of the breast: diagnosis, treatment and prognostic factors related to recurrence. *Journal Of Thoracic Disease*, 8(11), 3361-3368.
13. Gullett NP, Rizzo M, Johnstone PA, National surgical patterns of care for primary surgery and axillary staging of phyllodes tumors. *The breast journal.* 2009.
14. Hawkins RE, Schofield JB, Fisher C, et al. The clinical and histologic criteria that predict metastases from cystosarcoma phyllodes. *Cancer* 1992;69:141-7.
15. Belkacémi Y, Bousquet G, Marsiglia H, et al. Phyllodes tumor of the breast. *Int J Radiat Oncol Biol Phys* 2008;70:492-500.
16. Faridi SH, Siddiqui B, Ahmad SS, Aslam M, Progression of Fibroadenoma to Malignant Phyllodes Tumour in a 14-Year Female. *Journal of the College of Physicians and Surgeons--Pakistan: JCPSP.* 2018.
17. Mitus JW, Blecharz P, Jakubowicz J, Reinfuss M, Walasek T, Wysocki W, Phyllodes tumors of the breast. The treatment results for 340 patients from a single cancer centre. *Breast.* 2019.
18. Zhang, Y., & Kleer, C. G. Phyllodes Tumor of the Breast: Histopathologic Features, Differential Diagnosis, and Molecular/Genetic Updates. *Archives of Pathology & Laboratory Medicine*, 2016; 140(7), 665–671.
19. Laé M, Vincent-Salomon A, Savignoni A, Huon I, Fréneaux P, Sigal-Zafrani B, Aurias A, Sastre-Garau X, Couturier J, Phyllodes tumors of the breast segregate in two groups according to genetic criteria. *Modern Pathology: an official journal of the United States and Canadian Academy of Pathology, Inc.* 2007.
20. Jones AM, Mitter R, Springall R, Graham T, Winter E, Gillett C, Hanby AM, Tomlinson IP, Sawyer EJ, A comprehensive genetic profile of phyllodes tumours of the breast detects important mutations, intra-tumoral genetic heterogeneity and new genetic changes on recurrence. *The Journal of Pathology.* 2008.
21. Shashi Prakash Mishra, Satyendra Kumar Tiwary, Manjaree Mishra, Ajay Kumar Khanna, "Phyllodes Tumor of Breast: A Review Article", *International Scholarly Research Notices*, vol. 2013.
22. Harsas, Dewayani, Yohana. Histopathological and Clinical Features of Phyllodes Tumor in Hasan Sadikin Hospital during 2012 – 2016. *Journal of Medicine and Health.* Vol.2 No.2 August 2018
23. Lester S, Hicks D. *Diagnostic Pathology: Breast.* 2nd ed. Hicks D, Lester S, editors. Amirsys. Elsevier; 2016.p.264.
24. Pike AM, Oberman HA. Juvenile (cellular) adenofibromas: a clinicopathologic study. *Am J Surg Pathol.* 1985;9(10):730–736.
25. Lee AH, Hodi Z, Ellis IO, Elston CW. Histological features useful in the distinction of phyllodes tumour and fibroadenoma on needle core biopsy of the breast. *Histopathology.* 2007;51(3):336–344.

26. Yonemori K, Hasegawa T, Shimizu C, Shibata T, Matsumoto K, Kouno T, Ando M, Katsumata N, Fujiwara Y, *Correlation of p53 and MIB-1 expression with both the systemic recurrence and survival in cases of phyllodes tumors of the breast. Pathology, research and practice.* 2006
27. Niezabitowski A, Lackowska B, Rys J, Kruczak A, Kowalska T, Mitus J, Reinfuss M, Markiewicz D, *Prognostic evaluation of proliferative activity and DNA content in the phyllodes tumor of the breast: immunohistochemical and flow cytometric study of 118 cases. Breast cancer research and treatment.* 2001.
28. Tan WJ, Thike AA, Bay BH, Tan PH, *Immunohistochemical expression of homeoproteins Six1 and Pax3 in breast phyllodes tumours correlates with histological grade and clinical outcome. Histopathology.* 2014.
29. Jacklin RK, Ridgway PF, Ziprin P, Healy V, Hadjiminias D, Darzi A. *Optimising preoperative diagnosis in phyllodes tumour of the breast. J Clin Pathol.* 2006;59(5):454-459.
30. Reinfuss M, Mitus J, Duda K, et al. (1996) *The treatment and prognosis of patients with phyllodes tumor of the breast. Cancer* 77:910–916.
31. Hebbalkar, Deepshri, et al. "Breast Cancer Image Segmentation Using Ekstrap And Fcs Algorithm." *International Journal Of Computer Science Engineering And Information Technology Research (Ijcseitr)* 7 (2017): 39-48.
32. Chauhan, M. A. N. D. A., R. A. J. N. I. Kalra, and D. H. A. R. M. E. N. D. R. A. Kumar. "Benign paroxysmal positional vertigo in rehabilitation setting: review of diagnosis and intervention." *International Journal of Medicine and Pharmaceutical Science* 6.1 (2016): 67-78.
33. Manhas, Sarika, Sabiya Asmat, and Tashi Dolker. "Knowledge about Menarche and Menstruation, among Tribal Females of Kargil." *International Journal of Agricultural Science and Research (IJASR) ISSN (P)* (2017): 2250-0057.