

**BORDERLINE PHYLLODES TUMOUR A CASE REPORT****Dr. Bijoya Debnath<sup>1</sup>, Dr. Moumita Dam<sup>2</sup>, Dr. P. Karkuzhali<sup>3</sup>**<sup>1</sup> 1<sup>st</sup> Year Postgraduate, Department of Pathology, SBMCH, Chennai, Tamil Nadu.<sup>2</sup> 2<sup>nd</sup> Year Postgraduate, Department of Pathology, SBMCH, Chennai, Tamil Nadu.<sup>3</sup> Professor & HOD, Department of Pathology, SBMCH, Chennai, Tamil Nadu.**\*Corresponding Author: Dr. Bijoya Debnath**1<sup>st</sup> Year Postgraduate, Department of Pathology, SBMCH, Chennai, Tamil Nadu.

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**ABSTRACT**

Phyllodes tumour of the breast is a rare fibroepithelial neoplasm with risks of local recurrence and uncommon metastases. They are biphasic breast tumours occurring usually in adult females and are composed of benign epithelial component and a cellular spindle cell stroma forming leaf like structures. They occur predominantly in middle-aged women (40-50 years). Phyllodes tumor can certainly occur in young adults and even in adolescents. Diagnosis is based on clinical examination, mammography/sonography and FNAC but final diagnosis is based on histological findings. Benign tumours are treated by lumpectomy while recurrent tumours, malignant tumours and massive tumours require mastectomy without axillary dissection. We report a case of Borderline Phyllodes tumour with osseous metaplasia in a 42years old female because of its rarity.

**KEYWORDS:** Phyllodes, Osseous metaplasia, Cystosarcoma, Breast tumour.**INTRODUCTION**

Phyllodes tumours are a group of circumscribed biphasic tumours, characterized by a double layered epithelial component arranged in clefts surrounded by an overgrowing hypercellular mesenchymal component typically organized in leaf-like structure. Depending on the bland or overtly sarcomatous characteristics of their mesenchymal component, they display a morphological spectrum. In western countries, Phyllodes tumour account for 0.3-1% of all primary tumors and for 2- 5% of all fibroepithelial tumours of the breast. They occur predominantly in middle-aged women (40-50 years) with median age at the time of diagnosis being at 45years.<sup>[1]</sup> Phyllodes tumor can certainly occur in young adults and even in adolescents.<sup>[1]</sup> Malignant phyllodes tumours develop on average 2-5 years later than benign phyllodes tumours.

**CASE REPORT**

A 42 year old female came with complaints of gradually increasing painless lump in the right breast of 1 year duration. There was no history of pain or trauma. On examination swelling measured 15x8 cm and occupied all the four quadrants. Mass was firm with restricted mobility and non tender with smooth surface. The nipple areolar complex were retracted with no nipple discharge. Axillary and supra-clavicular lymph nodes was not palpable. FNAC findings were strongly suggestive of biphasic breast tumour with increased mitotic figures. A provisional diagnosis of Phyllodes tumour was made and

right mastectomy was performed and was sent for histopathological examination for further evaluation.

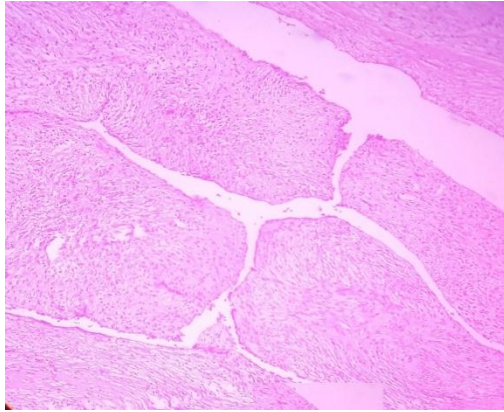
**GROSS**

The specimen measured 21x20x5cm with skin measuring 18x9.5x5cm. Nipple areola complex appeared normal. Tumor occupied upper inner quadrant predominantly and measured 14x12x12 cms, 3cms from the medial margin, 9 cms from the lateral margin, 2cms from the inferior margin, 0.5 cms from the deep resected margin & superior margin. The overlying elliptical skin flap was free. On cut section solid grayish white areas vaguely lobulated areas and cleft-like spaces were seen. No area of hemorrhage or necrosis was noted. Lymph node measuring 1.5x1.5 cms was also received. Seven lymph nodes were isolated from axillary fat.

**Fig. 1: C/S of tumour showing solid, gray-white areas with cut cabbage appearance.**

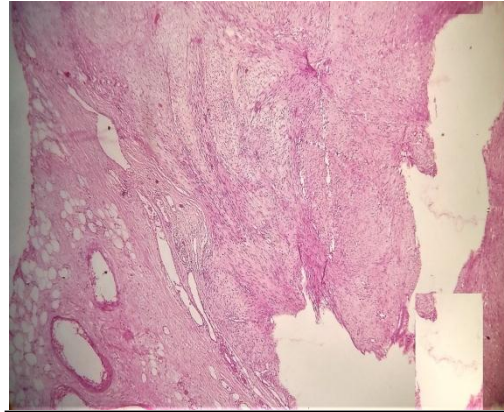
## MICROSCOPY

Sections from the tumour showed interlacing fascicles and bundles of spindle shaped cells in a hyalinized / myxoid stroma. Nuclei showed mild variation in size and shape, mitotic figures are increased, but no abnormal mitotic figures was detected. Increased cellularity appears more concentrated in the periductal areas.



**Fig. 2: (L/P) Picture showing cleft like spaces with increased stromal cellularity.**

Glandular elements are mostly slit-like and showed focal mild epithelial hyperplasia, but no evidence of dysplastic changes. Focal areas revealed osseous metaplasia. Resected margins were not involved by tumour. All the seven lymph nodes from the axillary tail and lymph node received separately showed reactive changes.



**Fig. 3: (L/P) shows lesion with stromal proliferation with adjacent normal breast tissue, separated by fibrous tissue.**

## DISCUSSION

Phyllodes tumours fall under the fibroepithelial tumours of the WHO Histological Classification of Breast (2016). They make up 0.3 to 0.5% of female breast tumours<sup>[2]</sup> and have an incidence of about 2.1 per million, the peak of which occurs in women aged 45 to 49 years.<sup>[3,4]</sup> The tumour is rarely found in adolescents and the elderly. They are thought to be derived from intralobular or periductal stroma. They may develop de novo or from fibroadenoma. Clinically they present as unilateral, firm, painless breast mass, not attached to the skin. Very large tumours (>10 cm) may stretch the skin with distension of superficial veins. Bloody nipple discharge caused by spontaneous infarction of the tumour may be seen. In 1774, they were described as a giant type of fibroadenoma.<sup>[5]</sup> In 1827, Chelius first described this tumour.<sup>[6]</sup> *Johannes Muller (1838)* was the first person to use the term *cystosarcoma phyllodes*, which is no longer used. It was believed to be benign until 1943, when *Cooper and Ackerman* reported on the malignant biological potential of this tumour.

In 1981 the *World Health Organization*<sup>[7]</sup> adopted the term phyllodes tumour and *Rosen*<sup>[8]</sup> subclassified them histologically as benign, borderline, or malignant according to the features such as tumour margins, stromal overgrowth, tumour necrosis, cellular atypia, and number of mitosis per high power field. The majority of phyllodes tumours have been described as benign (35% to 64%), with the remainder divided between the borderline and malignant subtypes. The term phyllodes tumour represents a broad range of fibroepithelial diseases and presence of an epithelial component with

stromal components differentiates the phyllodes tumor from other stromal sarcomas. Phyllodes tumour has a high recurrence rate of 10% – 40%.<sup>[9]</sup> These tumours are difficult to diagnose clinically, a triple assessment protocol needs to be adopted for timely identification.<sup>[10]</sup> Careful analysis of radiological features may help in distinguishing from other benign entities such as fibroadenoma, breast abscess and mastitis. Mammography alone is not useful with features as mass, calcifications (macro or micro), combination of both or focal asymmetrical density. They are progressive lesions that cannot be followed conservatively; wide excision with adequate margins is mandatory which can be preventive and curative as well.<sup>[11]</sup> Early and periodic follow up with 6 monthly sonographic examinations up to 2 years are recommended after surgery.<sup>[12,13,14]</sup> For the borderline group, the prognostic prediction and therapeutic recommendation have to be made on the basis of size, pushing versus peripheral margins, cellular atypia and mitotic count.

## CONCLUSION

Phyllodes are rare fibroepithelial neoplasms with potential for local recurrence and distant metastasis. Histologic classification of Phyllodes into benign, borderline, and malignant is challenging in some cases. Expression and genomics-based classifications of breast fibroepithelial tumours when used in combination with histologic criteria-Help in diagnosis, grading and providing clinically useful prognostic information.

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