



## Phyllodes Tumor of Breast: A Case Series with Review Literature in a Rural Hospital

Authors

**Dr Brjamohan Mishra (Prof)<sup>1</sup>, Dr Ashok Ku. Nayak (Asso. Prof)<sup>2</sup>,  
Dr Rabinarayan Guru (SR)<sup>3</sup>, Dr Akshay Behera (PG)<sup>4</sup>**

Corresponding Author

**Dr Akshay Behera (PG)**

### Abstract

*Although phyllodes tumor (PT) is an uncommon fibro epithelial tumor of the breast, due to its variation in nomenclature, presentation, and diagnosis, it has posed many problems for the surgeons around the world. Its clinical spectrum ranges from a benign, borderline to malignant with or without metastasis.*

**Aim:** *This a prospective study, aims to evaluate clinical characteristics, Histopathological diagnosis, Treatment regimen, Recurrence and survival of the patients with late complications.*

**Patients & Method:** *This study is done in V.S.S. Medical College, Burla, a rural hospital in India. Here we have enrolled 36 patients who are clinically, radiologically (USG & Mammography) and by FNAC, diagnosed as PT, under gone various type of surgical procedures and followed for recurrence and other late complications.*

**Result:** *The mean age at diagnosis is 38.5 years, 25(69.4%) are benign, 4(9%) are borderline, and 7(19.5%) are malignant,. mean size of the tumor 7.12cm, right side tumors are 21 and left side are 14.patients are followed up for 6 to 36 month period with 7 (19.4%) recurrence, 9 loosed follow up and 2 died due to metastasis.*

**Conclusion:** *For correct surgical planning, wider excision and to prevent local recurrence accurate preoperative pathological diagnosis is needed. It should be differentiated from malignant PT and other benign breast lesions and treat them accordingly*

**Keywords:** *Phyllodes tumor, Histopathological study , wide local excision.*

### INTRODUCTION

Phyllodes tumors are uncommon fibroepithelial tumors of the breast. They constitute 0.3 to 0.5% of female breast tumors <sup>[1]</sup> and have an incidence of about 2.1 per million. The peak incidence occurs in women aged 35 to 49 years <sup>[2,3]</sup>. It occurs exclusively in female breast. Up to 1774, they are considered as a giant type of fibroadenoma <sup>[4]</sup>. Chelius in 1827 first described

this a “tumor”<sup>[5]</sup>. The term “cystosarcoma phyllodes” for the first time, is coined by Johannes Muller (1838) and this term is adopted by WHO in 1981 <sup>[6]</sup>. In 1943, Cooper and Ackerman reported the malignant biological potential of this tumor. In 1981, WHO sub classified PT, histologically as benign, borderline, or malignant according to the features such as tumor margins, stromal overgrowth, tumor necrosis, cellular atypia, and

number of mitosis per high power field. Most of phyllodes tumors are found to be benign (35% to 64%), with the few incidence of borderline and malignant subtypes.

### PATIENTS & METHODS

This is a prospective study done in department of General Surgery V.S.S. Medical College, Burla (Odisha), during the period of Jan 2014 to Dec 2016 (3Year). The study enrolled a total of 36 patients diagnosed with phyllodes tumor, clinically, & by USG, Mammography and FNAC. The study excluded all cases of recurrent PTs.

Clinically all cases have a palpable mass in the affected breast. Only 1 patient has B/L breast involvement. Cervical, Supraclavicular and Axillary lymph nodes examined in all patients and Axillary LN is found to be positive in 5 cases. FNAC, Mammography and USG done all patients. FNAC of the axillary LN done in patients with axillary LN enlargement. Patients with clinically or mammographically suspected malignant PT or FNAC positive for borderline / malignant PT are advised for CT scan thorax, and abdomen to find out any metastasis.

**Table : 1**

No.	Age	Side	Size (cm)	FNAC	Surgery	H/P study	Recurrence	Follow up (m)&	Result
1	32	R	6.5	B	E (1.5)	B	2 (times)	36	ROp
2	64	R	10	B	SM	B	--	36	L F/U
3	37	L	7	B	E (1.5)	B	No	35	No Complication
4	34	R	3	B	E (1)	B	No	34	No Complication
5	26	R	8.5	B	E (1.5)	M	2 (times)	31	ROp
6	22	L	5	B	E (1)	B	--	30	L F/U
7	19	L	3	B	E (1)	B	---	28	L F/U
8	47	R (AN)	11.5	M	SMAD	M	2 (times)	28	ROp
9	70	L	10	B	SM	Br	No	25	No Complication
10	22	R	6	B	E(1.5)	Br	No	25	No Complication
11	20	R	3.5	B	E(1)	B	No	24	No Complication
12	37	R	10	B	E (1.5)	B	--	23	L F/U
13	36	L	7	B	E (1.5)	B	--	20	L F/U
14	48	L(AN)	12.5	M	SMAD	M	4 (times)	20	ROp& Died
15	24	R	8	B	E (1.5)	M	2 (times)	20	ROp
16	52	L	6	B	E (1.5)	B	No	19	No Complication
17	55	R	10.5	B	SM	B	No	18	No Complication
18	19	L	3	B	E (1)	B	--	18	L F/U
19	26	L	8	B	E (1.5)	B	--	17	No complication
20	21	R	4.5	B	E(1)	B	No	16	No Complication
21	69	R	7	B	E (1.5)	B	2 (times)	16	ROp
22	36	R(AN)	34	M	SMAD	M	3 (times)	16	ROp& Died
23	56	R	5	B	E(1)	B	--	14	L F/U
24	45	L	6.5	B	E (1.5)	Br	No	14	No Complication
25	21	L (AN)	13.5	M	SMAD	M	No	13	No Complication
26	45	R	4	B	E(1)	B	--	12	L F/U
27	35	R	3.5	B	E (1)	B	--	12	No Complication
28	34	R	4	B	E (1)	B	No	12	No Complication
29	26	R	11	B	SM	B	--	12	L F/U
30	63	L (AN)	7.5	B	SM	M	2 (times)	11	ROp
31	35	R	8	B	E (1.5)	B	No	10	No Complication
32	54	R & L	4 & 5.5	B	E(1)	B	No	10	No Complication
33	32	L	8	B	E (1.5)	B	1 (time)	9	ROp
34	46	L	5.5	B	E (1.5)	B	No	9	No Complication
35	28	R	6	B	E (1.5)	Br	No	8	No Complication
36	59	R	11	B	SM	B	No	6	No Complication

L- Left side breast, R-Right side breast ,B- Benign, Br- Borderline, M- Malignant, (AN)- Axillary lymph node +ve , E (1.5/1)- Wide Local excision of tumor with 1.5cm/1cm margin, SM- Simple mastectomy, SMAD- Simple mastectomy with axillary dissection, L F/U-Lost follow up, ROp- Re Operation done

Surgery is indicated in all cases of PT, but the modalities of surgery depends on size of the tumor, nature of the tumor (FNAC finding), extent of local involvement and lymph node status. For this study Benign tumor size < 5 cm is excised with 1 cm tumor free margin and size 5cm to 10 cm is excised with 1.5 cm tumor free margin or lumpectomy done depending on the size of breast. All Borderline tumors are treated by wide local excision or Simple Mastectomy, similar to benign type. Tumor size>10 cm or if the tumor involved the whole breast, simple mastectomy is done. And simple mastectomy with axillary dissection (SMAD) is reserved for Malignant tumor with axillary lymph node involvement. All excised sample is send for histopathological study and the result is correlated with preoperative FNAC and clinical findings.

**RESULT**

The above table-1 shows a total list 36 patents arranged according to age, affected side of breast, size of tumor, FNAC diagnosis, type of surgery done, safe tumor free margin of excision, histopathological study, recurrence, duration of follow up and late complications.

The mean age at diagnosis is 38.5 years (range:19 to 70 years). Out of 36 cases 25(69.4%) are benign, 4(9%) are borderline, and 7(19.5%) are malignant. Tumor size varies from 3cm to 13.5cm with mean size of 7.12cm. Exceptionally study included a patient with PT of size 34cm. patients with right side tumors are 21 and left side are 14, and one patient is having bilateral involvement. These patients are followed up for 6 to 36 month period. 7 (19.4%) patients reported with recurrence and reoperated again. 9 patients loosed follow up (probably cured) and 2 patients died due to malignant metastasis.

**DISCUSSION**

Phyllodes tumor is rare fibroepithelial tumor of the breast with an incidence of 2.1 per million. It occurs exclusively in female breast aged between 35 to 55 years. Pathologically this tumor occurs in

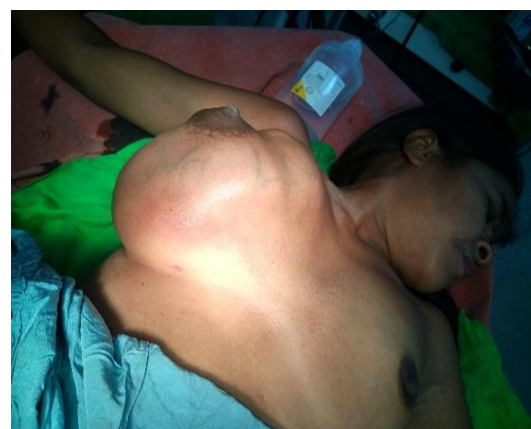
the stroma outside the ducts and lobules but may contains cells from the ducts and lobules along with stromal cells. PTs are classified by WHO into Benign, Borderline and Malignant verity.

**Table: 2** WHO grading of Phyllodes tumor

Histologic Features	Benign	Borderline	Malignant
Stromal cellularity	Mild	Moderate	Marked
Stromal Atypia	Mild	Moderate	Marked
Mitosis(per 10 HPf)	< 5	5-9	>= 10
Stromal overgrowth	Absent	Absent	Focally present
Tumor margin	Well defined	Well defined/ Focal infiltrative	Infiltrative

Clinically PT presents with a rapidly growing lump with bosselated surface, dilated engorged veins, ulceration is rare (if at all occurs it is due to pressure not due to malignant infiltration). It is soft to firm and cystic. Fixity to the skin and chest wall is less common, Axillary LNs rarely involved.

Mammography shows round/lobulated shape lump having well-defined margins, heterogeneous internal structure, with non enhancing internal septations. Micro calcification may seen in malignant cases. USG shows lobulated shapemass with smooth margins, echogenic rim, and low level homogenous internal echoes. Fluid-filled clefts in a predominantly solid mass (highly suggestive of phyllodes tumor).CT and MRI are indicated in specific cases



**Clinical picture of PT**



**Excised Phyllodes Tumor (Gross)**



**Histopathological Picture of PT**

It is difficult to distinguish properly between the fibroadenoma and phyllodes tumor by FNAC as both have fibroepithelial origin. So true-cut biopsy or excisional biopsy are more diagnostic. Macroscopically most tumors have a lobulated surface with uniform white or grey consistency. Cut surface shows hemorrhagic and necrotic areas and cystic spaces with leaf like protrusions. These tumors are microscopically characterized by (a) Biphasic hypercellular stroma containing both stromal and epithelial cells, (b) Cleft like spaces lined by epithelium, and (c) Leaf like architecture resulting from an enhanced intracanalicular growth pattern. Basically 4 characters (cellularity, nuclear atypia, mitoses, and amount of stroma relative to epithelium) are used to differentiate between fibroadenoma at excision and phyllodes tumor.

Differential diagnosis includes (a) fibroadenoma, (b) lipoma, (c) juvenile papillomatosis, (d) carcinoma, (e) sarcomas, (f) metastatic tumor.

After diagnosis benign and borderline tumors are managed by wide local excision with tumor free margins and malignant tumors treated by simple mastectomy or lumpectomy depending on the relative size of the tumor with respect to the breast. Most of the malignant PTs are spread by haematogenous route, lymph node metastasis is very rare. So axillary dissection is not routinely recommended. It is reserved for the patients with histologically malignant positive lymph nodes. Another procedure called subcutaneous mastectomy can be performed in case of large tumors followed by implantation of prosthesis.<sup>[8]</sup> Local recurrence rate is 15 to 20%, usually occurs in patients with positive excisional margin rather than size or grading of tumor<sup>[7]</sup>. Role of adjuvant radiotherapy and chemotherapy in case of malignant PT is variable but can be given to get considerable result like sarcomas<sup>[9]</sup>. Chemotherapy, includes anthracyclines, ifosfamide, cisplatin, and etoposide.<sup>[10]</sup>

## CONCLUSION

For correct surgical planning, wider excision and to prevent local recurrence accurate preoperative pathological diagnosis is needed.<sup>[11,12]</sup> At one hand if malignant tumors are improperly diagnosed and inadequately treated leads to metastatic spread and death, on the other hand overzealous excision of the benign tumors leads to complete removal of breast which can be managed by local surgery. So the importance of the phyllodes tumor lies in the need to differentiate them from malignant PT and other benign breast lesions and treat them accordingly to have a better result

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