

Comparative Study on Enbloc Resection Vs Mastectomy in Management of Phyllodes Tumor of Breast

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Abstract: *Background:* The mammary gland is an organ of ectodermal origin, typical of mammals, whose structure reflects its special function the production of milk for lactation. Vast majority of breast lesion are benign, as benign lesions of breast are far more frequent than malignant one. The term phyllodes tumor represents a broad range of fibroepithelial disease and presence of an epithelial component along with stromal component differentiates phyllodes tumor from other stromal sarcomas. *Methods:* 80 patients were included in this study who had phyllodes tumor admitted in SNMC, Agra from January 2021 to July 2022. There were two groups and each of them consist of 40patients. group A all cases that were treated by en bloc resection, Group B all cases that were treated by simple mastectomy. After surgery, total patients followed up for 6 months. *Results:* Phyllodes tumor studied majority of females were in age 25 to 50 years, with tumor distribution in upper inner quadrant (UIQ) and lower inner quadrant (LIQ) 60% and remaining 40% were in other quadrants. Majority of patients in Group II (simple mastectomy) required operative more than 90 minutes 40% as compared to Group I (En bloc) 5%. Post operative duration of drain removal was nearly same in both the groups, but duration of hospital stay was significantly higher in Group II was 8 - 12 days as compared to Group I was 4 - 8 days. Post operative recurrence found during follow up in Group - I (35.00%) in Group - II (15.00%). Also post operative scar dehiscence was significantly higher in mastectomy group (20%) as compared to en bloc resection (this can be attributable due to tumor to breast size ratio). *Conclusion:* In our study we found that in majority of patient with breast lump located in right upper and lower quadrant, In simple mastectomy we founded that operative time, duration of hospital stay was more than en bloc resection but post operative recurrence rate was significantly higher with enbloc resection.

Keywords: Phyllodes tumor, Giant fibroadenoma, simple mastectomy, en bloc resection

1. Introduction

The mammary gland is an organ of ectodermal origin. Human breast tissue begins to develop at approximately the 5th–6th week of fetal life. The inner structure is made of epithelial components that consist of lobules, which connect to the ducts at the nipple. These specialized epithelium buds into 15–20 branches that first consist of solid epithelial columns and then, by the 20th–24th weeks of gestation and then develop inner lumen and eventually canalize to form the lactiferous ducts. These lobules and ducts are located and spread throughout the background of fibrous tissue and adipose tissue. The mesenchymal component differentiates into smooth muscle of the nipple and areola.

Each breast extends superiorly to the second rib, inferiorly to the sixth costal cartilage, medially to the sternum, and laterally to the midaxillary line.¹⁻² The main bulk of the breast tissue is usually localized to its upper outer quadrant. This quadrant is implicated in breast cancer and in most benign lesion of breast.³ The superolateral part of the mammary gland extends towards the axilla, along the lower border of the pectoralis major, forming the axillary tail of Spence. The main bulk of the breast tissue is usually localized to its upper outer quadrant, implicated in breast cancer and in most benign lesions of breast.

Vast majority of breast lesion are benign, and benign lesions of breast are far more frequent than malignant. With the use of mammography, ultrasound, magnetic resonance imaging of breast and extensive use of needle biopsies, the diagnosis of benign breast disease can be accomplished without surgery in the majority of patients.

The term Phyllodes Tumor represents a broad range of fibroepithelial disease and presence of an epithelial component along with stromal component differentiates phyllodes tumor from other stromal sarcomas. Phyllodes tumors are uncommon breast masses, accounting for 0.3% to 0.5% of breast tumors in females.⁴ They are most commonly found in women aged between 40 and 50 years.⁵ The World Health Organization (WHO) has published guidelines classifying this tumor into benign, borderline or malignant according to the histological features such as stromal cellularity, stromal over growth, stromal atypia, mitoses/high power field and tumor margin. For malignant phyllodes tumor if inadequately treated, have propensity for rapid growth and metastatic spread, as compared with benign phyllodes tumor. In the past, several literatures recommends that the standard treatment for phylloides tumor surgery to remove tumor with a free margin of at least 1cm to reduce local recurrence. Unlike carcinoma breast, phyllodes tumor start outside of duct and lobules in the breast connective tissue, called stroma which includes the fatty tissue and ligaments that surrounds the duct, lobules, and blood and lymph vessels in the breast. Preoperative clinical suspicion of a phyllodes tumor is important because the lesions resemble fibroadenomas both on imaging and tissue sampling, this can be a challenging diagnosis. Features that should increase the clinician's suspicion include older patient age, larger tumor size, and history of rapid growth.

Most of tumor arises in women aged between 35 and 55 years (approximately 20 years later than fibroadenoma)⁶⁻⁸. Some cases lesion may be in apparent with clinical presentation precipitated by sudden and rapid increase in size.⁷⁻⁸

- Skin over large tumor may have dilated veins and a bluish discoloration but nipple retraction is rare.
- More commonly presents over upper outer quadrant of breast with equal bilateral propensity
- Fixation to skin and pectoralis major muscle has been reported.
- Palpable axillary lymphadenopathy can be identified in upto 10 - 15% of patients but <1% had pathological positive nodes.

2. Material and Methods

A prospective study was done during the period from January 2021 to June 2022, on all female patients with breast lump admitted through OPD and Emergency department S. N. Hospital, Agra which were included in the study. The sample size of 80 patients were prospectively randomized in two groups -

- 1) Group I All cases that will be treated by En bloc resection.
- 2) Group II All cases that will be treated by simple mastectomy.

Inclusion Criteria

- 1) Age 25 to 50years
- 2) Patient suggestive of clinical presentation of phyllodes tumor
- 3) Breast lump of more than 5cm

Exclusion Criteria

- 1) Known case of Carcinoma Breast
- 2) Fibroadenosis
- 3) Diffuse breast lump with abnormal nipple discharge
- 4) Previous history of breast lump excision
- 5) Patient with previous history of chemoradiation.

To compare the outcome associated with different surgical modality in management of Phyllodes tumor of breast in following parameters:

- 1) Tumor distribution according to quadrants
- 2) Operative time during surgery,
- 3) Duration of drain removal
- 4) Duration of hospital stay to achieve clinical improvement,
- 5) Post operative recurrence rate
- 6) Post operative complications (scardehiscence)

3. Result

From this prospective study conducted by selection of 80 cases on all females with breast lump at S. N. Hospital, Agra from the period January 2021 to July 2022, the following results are observed:

Table 1: Tumor Distribution

Mammogram	Group - I		Group - II	
	No.	%	No.	%
UIQ & LIQ	26	65.00	22	55.00
CENTRAL	8	20.00	14	35.00
UOQ & LOQ	6	15.00	4	10.00
Total	40	100.00	40	100.00
χ^2	2.370			
Df	2			
P	>0.05			

Tumor distribution on basis of mammography majority of lesion were in upper inner quadrant (UIQ) and lower inner quadrant (LIQ) 60% and remaining were in other quadrants.

Table 2: Operative Time

Operative time (min)	Group - I		Group - II	
	No.	%	No.	%
60	8	20	2	5
60 - 90	30	75	24	60
>90	2	5	14	35
Total	40	100	40	100
χ^2	13.267			
Df	2			
P	<0.05			

Majority of patients in Group II (simple mastectomy) required operative more than 90 minutes 40% as compared to Group I (En bloc) 5%.

Table 3: Duration of Drain Removal

Duration (days)	Group I		Group II	
	No.	%	No.	%
1-2	5	12.50	8	20.00
3-4	33	82.50	26	65.00
5-6	2	5.00	6	15.00
Total	40	100.00	40	100.00
Mean±SD	3.10±0.66		3.45±1.28	
T	1.537			
P	>0.05			

Post operative duration of drain removal was nearly same in both the groups

Table 4: Duration of Hospital Stay

Hospital Stay (days)	Group I		Group II	
	No.	%	No.	%
5-10	36	90.00	20	50.00
10-15	4	10.00	14	35.00
15-20	0	0.00	6	15.00
Total	40	100.00	40	100.00
Mean±SD	6.88±1.47		10.12±2.91	
t	6.285			
p	<0.05			

Duration of hospital stay found to be higher in Group II was 8 - 12 days as compared to Group I was 4 - 8 days.

Table 5: Post Operative Recurrence

Recurrence	Group - I		Group - II	
	No.	%	No.	%
NO	26	65.00	34	85.00
Yes	14	35.00	6	15.00
Total	40	100.00	40	100.00
χ^2	5.986			
df	1			
P	<0.05			

Post operative recurrence found during follow up in Group - I (35.00%) in Group - II (15.00%).

Table 6: Post OP Scar Dehiscence

Scar dehiscence	Group I		Group II	
	No.	%	No.	%
No	36	90.00	32	80.00
Yes	4	10.00	8	20.00
Total	40	100.00	40	100.00
χ^2	10.912			
df	1			
p	<0.05			

Post operative scar dehiscence was significantly higher in mastectomy group (20%) as compared to en bloc resection.

4. Discussion

Phyllodes tumor is rare benign breast disorder which is most commonly found in the age group of 40 to 50 years. Most commonly presents with lump which rapidly increases in size, locally invasive sometimes may be malignant. The mainstay of routine imaging of breast lump with mammography and ultrasonography. Surgical management is mainstay of treatment but type of surgery been a debatable topic over years. Many studies have been conducted between en bloc resection versus mastectomy in terms of superiority. In our study parameters like age, were not statistically significant in both the groups.

The mean age was 33.50 in group - I and in 34.00 group - II respectively which is consistent with **Komenaka et al**⁹ (2003) the median age patients was 42 years (mean, 41 years; range, 16 - 77 years).

On mammography, distribution of tumor in UIQ and LIQ 26 (65%) in group I and 22 (55%) in group II, central involvement 8 (20%) in group I & 14 (35%) in group II and UOQ & LOQ 6 (15%) in group I and 4 (10%) group II. **Ditsatham C et al**¹⁰ study found that mass was located in the upper outer quadrant in 78 cases, the upper inner quadrant in 48 cases, the lower outer quadrant in 19 cases, the lower inner quadrant in 11 cases and centrally in 32 patients.

Demian GA et al¹¹ found the most frequent tumor site was the upper outer quadrant reported in 17 patients (48.5%) while the second frequent was the involvement of whole breast in 11 patients (31.5%), this was in contrast to our study in which whole breast was not found to be involved.

In our study operative time was more in group II in approx. more than 90 minutes as compared to group I en bloc resection. Although operative time was also dependent on tumor to breast size ratio. More detailed information on the comparison is still missing.

In our study, Mean duration of drain removal 3.10±0.66 days in group I and 3.45±1.28 days in group II, Results were thoroughly studied and there was no significance of duration of drain removal in terms of surgical modality applied in either of groups.

In our study, mean duration of hospital stay to reach favourable clinical outcome 6.88±1.47 days in group I and 10.12±2.91 days in group II, although majority of patients

36 (90%) in group I were discharged after 5 - 10 days of hospital stay, this signifies lesser duration of hospital stay in patient of group I.

In our study recurrence, in group - I in 14 (35.00%) and in group - II in 6 (15.00%) which is significant ($p < 0.05$). **Mangi A et al**¹² reported that a subgroup that behaved aggressively, resulting in 6 episodes of local recurrence in 4 patients and 1 death from metastatic disease. **Barrio V et al**¹³ conducted a study on 293 cases of phyllodes tumor revealed a statistically significant increase in actuarial local recurrence associated with positive margins, fibroproliferation in the surrounding breast tissue, and necrosis. They noted no difference in local recurrence between tumors traditionally classified as benign and malignant, i. e consistent with our study.

In our study post op complication in form of scar dehiscence in group - II (simple mastectomy) 8 (20%) was higher than group - I (En bloc) 4 (10%) Although, scar dehiscence was also dependent on tumor to breast size ratio. More detailed information on the comparison is still missing

5. Conclusion

The present study concluded that age range was 25 - 50 years female who visited in OPD with breast lump. Most patients were between age group of 30 - 35 years among them patient came to our OPD with complaints of breast lump which included 50% of cases in both the groups. During the study right breast was more affected than the left breast with phyllode tumor which was latter on investigated using the mammogram. Mammogram of phyllodes tumor majority of patients having breast lump were located in Upper and Lower quadrant of breast During surgery, operative time was significantly more in simple mastectomy as compared to En bloc resection. Post operatively duration of drain removal was nearly similar in both the groups, but Duration of hospital stay was higher in patients who were surgically managed with simple mastectomy as compared to En bloc resection. During follow up recurrence seen in patients managed with en bloc surgery. Post operative complication in form of Scar dehiscence was significant higher in simple mastectomy group, although this can be due to high tumor to breast size ratio.

Also, exact relevance could not be established due to limitation of data therefore, we need to carry out further study in large number of patients to reach definitive conclusion.

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