

## EXPERIENCE OF MANAGEMENT OF PHYLLODES TUMOR OF BREAST AT A TERTIARY CARE HOSPITAL: A PROSPECTIVE STUDY

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### ABSTRACT

#### BACKGROUND

Phyllodes tumors of the breast are a rare fibroepithelial lesions, which is locally aggressive neoplasm. The aim of the study was to report our experience at ESIC MC PGIMSR Hospital (Rajajinagar, Bengaluru) acquired during period of 3 years.

#### METHODS

It was a prospective observational study, which included documentation of clinical presentation, pre-operative workup, surgical treatment, complications, histopathological examination and the outcome in a series of 52 cases diagnosed as phyllodes tumor from January 2013 to December 2015.

#### RESULTS

The analysis of this series showed that mean time of onset was 12 months [6 – 18 months], the chief complaint was lump in the breast in all the patients; tumor size ranged between 4.5 – 22.5cm (mean: 13.5cm); the right breast was affected in 31 cases, surgical treatment was used in all cases which included 44 cases who underwent wide local excision and 8 cases simple mastectomy; the tumor was classified based on histopathological examination as benign in 44 cases (85%), borderline in 2 cases (4%) and malignant in 6 cases (11%); all the patients were followed up, the rate of recurrence was 10%. None of the patient had distant metastasis and no deaths were reported during the study period.

#### CONCLUSIONS

Phyllodes tumors of the breast clinically resemble fibroadenoma and have an unpredictable outcome, thus a wide local excision, with an adequate margin of normal breast tissue is the preferred initial therapy.

#### KEYWORDS

Phyllodes Tumor, Malignant, Mastectomy, Recurrence.

**HOW TO CITE THIS ARTICLE:** Bharath B, Lakkanna S, Satyanarayan V, et al. Experience of management of phyllodes tumor of breast at a tertiary care hospital: a prospective study. J. Evolution Med. Dent. Sci. 2016;5(15):707-710, DOI: 10.14260/jemds/2016/163

#### INTRODUCTION

Johannes Muller first described a tumor of breast in 1838, which was fleshy and contained cystic spaces with a leaf like architecture, he coined the term cystosarcoma phyllodes which was derived from the Greek word 'phyllodes' meaning leaf like.<sup>1</sup> The disease was renamed as phyllodes tumour by World Health Organisation (WHO).<sup>2</sup> Its malignant potential was first described by Cooper and Ackerman in 1943. It is classified under heterogeneous group of fibroepithelial tumours.

Histologically, it is classified as benign, borderline or malignant. The median age of occurrence of disease is 40–50 years. Rarity of the disease, difficulty in pre-operative diagnosis and its tendency to recur and poor response to chemotherapy and radiotherapy leads to delay in diagnosis.

The aim of the study is to evaluate the clinical data, pathology, treatment and outcome of the disease.

#### MATERIALS AND METHODS

It is a prospective observational study for a period of 3 years from January 2013 to December 2015 including the follow-up period of 6 months. The data collected included demographic, presenting complaint, size of the tumor and its localization, FNAC, ultrasonography, preoperative diagnosis, surgical procedure, pathological findings and outcome. Grading into benign, borderline and malignant was performed preoperatively based on FNAC findings and patients were subjected to wide local excision for benign cases and simple mastectomy for malignant cases and were postoperatively followed up for recurrence. One patient was subjected to radiotherapy; none of the patients were subjected to chemotherapy.

#### RESULTS

Fifty two patients with histologically proven cystosarcoma phyllodes of the breast were diagnosed. Forty one cases were diagnosed to have phyllodes tumor by FNAC before surgery, which accounted to 78.2%. Mean age at diagnosis was 37.7 (37.7+/-23.5) years, median also was 38 years.

Financial or Other, Competing Interest: None.

Submission 10-01-2016, Peer Review 04-02-2016,

Acceptance 10-02-2016, Published 22-02-2016.

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DOI: 10.14260/jemds/2016/163

The youngest and eldest patients were 14 and 61 years old at diagnosis, respectively. Five patients showed a history of previous fibroadenoma, but none had been diagnosed with breast cancer; 31 patients (59.61%) of the tumours occurred in the right; 21 (40.39%) in the left breast. Tumor occupied all quadrants in 46% of patients; 37% patients had tumour in upper outer quadrant and lower outer quadrant in 12%.

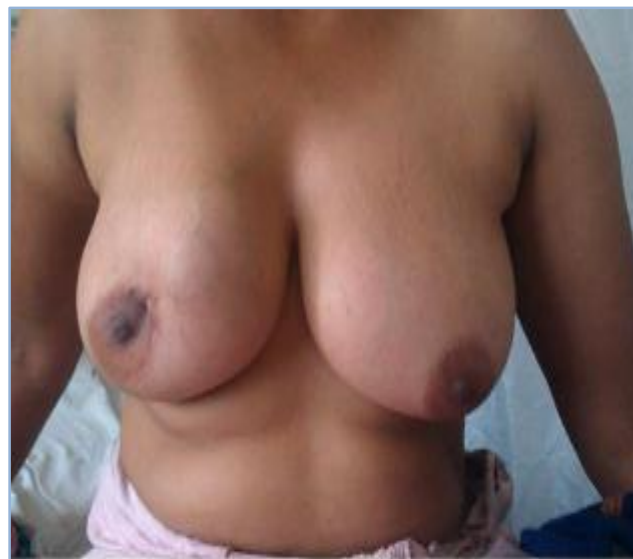
No case of bilateral phyllodes tumor was recorded. The tumors were classified histologically into benign (85%), borderline (4%) and malignant tumours (11%) based on 2003 World Health Organization (WHO) classification taking into account stromal cellularity and overgrowth, cellular atypia mitotic activity and microscopic tumor borders.<sup>3</sup> Breast conserving procedure was done in 44 cases (85%) and simple mastectomy in 8 cases (15%), one of the patients was treated with adjuvant radiotherapy after primary surgery due to chest wall invasion. Mean tumour size was 13.5+/-9.0cm. The smallest tumour was 4.5cm in size and the largest was a very large phyllodes tumour of 22.5cm diameter.

A 56% of the (29 of 52) patients had a tumour of less than 5cm diameter; 17% (9/52) had a tumour between 5 and 10cm and 27% (14/52) had tumours of more than 10cm diameter. Surgical removal of lymph nodes was performed in 2 cases due to presence clinical palpable lymph nodes with prior diagnosis of malignant phyllodes tumor. No lymph node infiltration was found in any of the patients who underwent axillary lymph node dissection.

Local recurrence occurred in 5 of 52 patients (10%). All of them with a local recurrence had been treated with breast conserving surgery [Wide local excision]. Distant metastases were not seen in any patients, ruled out by chest X-ray and X-ray of long bones and skull.

**Patient and Tumour Related Characteristics**

<b>Total number of patients</b>	<b>52</b>
Age (Range)	14-61 years
Mean age	38 years
Localisation of tumour	R-31, L-21
<b>Histology</b>	
Benign phyllodes	44
Borderline phyllodes	2
Malignant phyllodes	6
<b>Size</b>	
< 5 cm	29
5 - 10 cm	9
> 10 cm	14
<b>Surgery</b>	
Conservative surgery	44
Mastectomy	8
Axillary dissection	2
Radiotherapy	1
Local recurrence	5
Distant Metastasis	0



**Fig. 1: Clinical Photograph of Malignant Phyllodes Tumor of Right Breast**



**Fig. 2: Clinical Photograph of Malignant Phyllodes Tumor of Left Breast**

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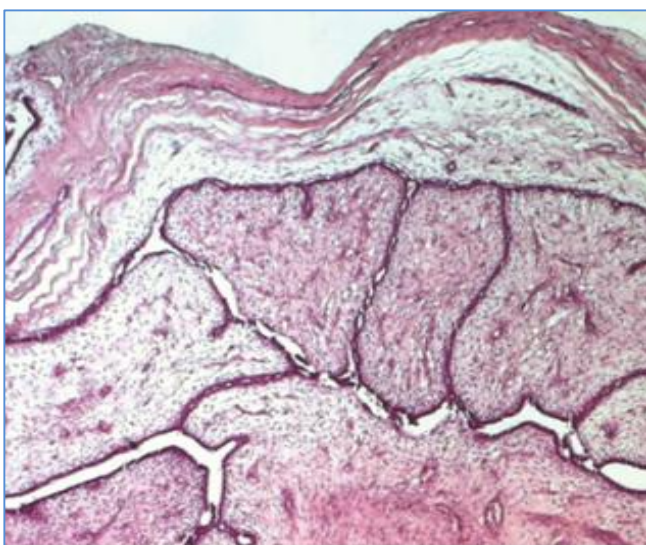
**Fig. 3: Clinical Photograph of Malignant Phyllodes Tumor of Left Breast**



**Fig. 4: Post Wide Local Excision**



**Fig. 5: Resected Specimen of Breast - Simple Mastectomy of Left Breast**



**Fig. 6: Benign: containing leaf-like, epithelial-lined papillary projections penetrating into cystic spaces**

## DISCUSSION

Phyllodes tumors of breast are rare tumors comprising of both stromal and epithelial elements.<sup>4</sup> They occur in 4<sup>th</sup> to 5<sup>th</sup> decade of life. Clinically, they are painless lumps with rapid growth in size resembling fibroadenoma. Multi-focality has been reported in literature where the highest incidence of up to 12% was reported by Ben Hassouna.<sup>5</sup> whereas bilateral cases are rare being from 0 to 3.5%.<sup>6</sup> In our series we did not encounter multi-focality or bilateral cases. Histopathologically it exists in benign, borderline and malignant subtypes, although there is no unanimous agreement on the criteria in assigning subtype and in prediction of the biological behaviour.<sup>7</sup>

The risk of local recurrence is irrespective of histology, although the events are more frequent in the malignant and borderline tumors than in benign group. Among the benign and borderline tumors all local relapses can be well managed by further surgery (Either breast-conserving surgery or mastectomy). In this group (Benign/borderline) positive surgical margins do not seem to predict a worse outcome. Diagnosis of phyllodes tumor on ultrasound and mammography and FNAC are inadequate to reliably distinguish phyllodes tumor from fibroadenoma.<sup>7</sup> In the present study, malignant tumors accounted for 12% of the phyllodes tumors. The share of malignant phyllodes tumors described in literature varies from 8 to 45%.<sup>8</sup>

Surgical treatment is generally the primary treatment of choice for phyllodes tumor, regardless of its histological subtype.<sup>9</sup> most studies recommend minimum of 10 to 20mm tumor free margin.<sup>10,11,12</sup> but due to a large size of the tumor, excision with required margin is impossible due to presence of narrow breast tissue surrounding the tumor. Lumpectomy or partial mastectomy is the preferred surgery of choice, total mastectomy is necessary only if negative margins cannot be obtained.<sup>13</sup>

Since phyllodes tumor rarely metastasizes to axillary lymph node, axillary lymph node metastases are described in less than 10% of malignant phyllodes tumors.<sup>10</sup> Surgical axillary clearance or dissection is unnecessary unless lymph nodes are pathologic on clinical examination. Metastatic spread occur mostly haematogenous and the organs most commonly affected by metastatic spread are the lungs, pleura and bones.<sup>11</sup> we did not have any patient with distant metastasis.

The incidence of local recurrence varies, probably mainly due to the small number of patients, between 9 and 29%.<sup>10</sup> In our study recurrence was seen in 5 patients and accounted to 10%, neither radiotherapy nor chemotherapy play a dominant role for adjuvant therapy.<sup>14</sup> Radiotherapy has been used with good results for local control of the disease.<sup>15</sup>

## CONCLUSION

Phyllodes tumors of the breast clinically resemble fibroadenoma and have similar features and it is difficult to diagnose by FNAC as the sensitivity is variable and utilisation of mammography and ultrasound appearances are nonspecific. Frozen section is useful to know the status of the margin intra-operatively as the disease is known for high recurrence. Local excision with appropriate surgical margins seems adequate in all patients; patients with a malignant tumour are at higher risk for local recurrence and metastatic

spread and the histopathological examination seems to be most important prognostic factor.

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