



ORIGINAL RESEARCH PAPER

Surgery

A CLINICAL STUDY OF PHYLLODES TUMOUR OF BREAST –A TERTARY CARE HOSPITAL STUDY

KEY WORDS: (HPE) Histopathological Examination,(RM) Modified Radical Mastectomy, (RM) Radical Mastectomy,(UOQ) Upper Outer Quadrant.

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ABSTRACT	AIMS AND OBJECTIVES: The main objectives of this study is to Study the various clinical presentations of the disease in various age groups, correlating clinicopathological aspects, various treatment options and the outcomes.
	MATERIAL AND METHODS: 30 patients presenting with phyllodes tumour of breast admitted to Osmania general hospital were studied after obtaining informed consent and satisfying the inclusion & exclusion criteria. It included both retrospective and prospective enquiry after obtaining ethical clearance from the Institutional Ethical Committee. Patient details including clinical history, examination findings, investigations, surgery performed and final HPE reports were assessed from patients' files.
	RESULT AND CONCLUSION: Out of the 30 cases 56.7% were primary cases, 43.3% cases already underwent some form of surgery outside before presenting to our hospital, Common in the age group of 41- 50yrs, with a mean age of 36.9 years.Out of the 30 cases, 13 were in the left breast (43.3%), 17 in the right breast (56.7%) All the cases (100%) presented with lump in breast and six patients (20%)presented with pain associated with the lump, six patients (20%) presented with skin changes (Ulcer, Peud orange), and four cases (13.3%) presented with nipple retraction and nine cases (30%) presented with dilated veins. Of the 30 cases, 50 % of the sample presented with lump size of 5-10 cm with a mean size of 11.1 cms.Most of the cases under the study belongs to benign category (63.3%), borderline is 26.7% and malignant is 10%.

INTRODUCTION

Breast is a dynamic structure, which undergoes changes throughout women’s reproductive life, and superimposed on this, cyclical changes throughout menstrual cycle. The pathogenesis involves disturbance in the breast physiology extending from an extreme normality to well defined processes[1].Cystosarcoma phyllodes is defined as a distinctive fibroepithelial neoplasm of breast tissue. It is a rare tumour representing 2.5% of all fibroepithelial lesions of the breast and with incidence of 0.3 – 0.5 % of female breast tumours[2].Although it can occur at any age from adolescents to elderly, in most of the cases occurs between 35 and 55 years of age. Most of them are indistinguishable from benign fibroadenomas and present as smooth, painless breast lumps.Phyllodes tumours exhibit a wide spectrum of clinical and pathological behavior ranging from benign (B), borderline (BL), and locally recurrent to malignant (M) and metastatic type[3].

Metastasis is rare and mainly hematogenous to lungs and bones. Lymphatic involvement is infrequent[4][5]. 20% of both benign and malignant tumours may recur[6][7].

Most patients will not experience a recurrence, but even small, low-grade tumours may recur if inadequately excised. Occasional patients have extremely aggressive disease that may result in death. Diagnosis is based on clinical examination, mammography/sonography and FNAC but final diagnosis is based on histological findings. Histopathologic analysis reveals the characteristic appearance of leaf-like architecture that consists of long, cleft-like spaces and papillary projections of hyperplastic or atypical epithelial-lined cellular stroma, increased stromal overgrowth and mitoses consistently predicting malignant and metastatic potential[8][9].

The surgical intervention varied from simple excision (lumpectomy)/wide local excision (WLE) in benign cases to simple/modified radical or radical mastectomy (SM/MRM/RM) in malignant and recurrent tumours.With the non-operative management of fibroadenomas widely adopted, the importance of phyllodes tumours today lies in the need to differentiate them from other benign breast lesions.In view of the rarity of these tumours, most reported clinicopathological series are small, retrospective in nature, with limited long term follow up.

AIMS AND OBJECTIVES

The main objectives of this study is to Study the various clinical presentations of the disease in various age groups, correlating clinicopathological aspects, various treatment options and the outcomes.



Fig No.1 Malignant Phyllodes Tumour Right Breast



Fig No.2 Recurrent Phyllodes Tumour Left Breast

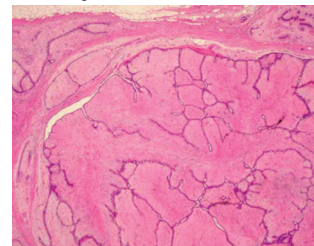


Fig No.3 Phyllodes Tumour On H&E Staining

PATIENTS AND METHODS

An Observational Descriptive Study was conducted at the Department of General Surgery, Osmania General Hospital,

Hyderabad. 30 cases of phyllodes tumour of breast included during study period from August 2016 to November 2017

Inclusion criteria:Age: 18 years and above ,Patients with clinical or histopathologically proven phyllodes tumour breast

Exclusion criteria: Patients with suspected or documented carcinoma breast

METHODOLOGY:

30 patients presenting with phyllodes tumour of breast admitted to Osmania general hospital were studied after obtaining informed consent and satisfying the inclusion & exclusion criteria. It included both retrospective and prospective enquiry after obtaining ethical clearance from the Institutional Ethical Committee. Patient details including clinical history, examination findings, investigations, surgery performed and final HPE reports were assessed from patients' files.

OBSERVATIONS AND RESULTS

The study results show that a total number of 30 cases of phyllodes tumor were reported in the study period. The age distribution of phyllodes tumor showed that most common affected age group was 41- 50yrs with 12 cases with a mean age of 36.9 years[TABLE NO 1]. The duration of symptoms ranges from 1 month to 24 months, of which most (53.3 %) patients presented with complaints of less than 6 months duration. The mean duration of symptoms is 7.5 months. Out of the 30 cases, 13 were in the left breast (43.3%), 17 in the right breast (56.7%). Out of the 30 cases 17 were primary cases, 13 cases already underwent some form of surgery outside before presenting to our hospital. **MODE OF PRESENTATION** All the cases (100%) presented with lump in breast and six patients (20%) presented with pain associated with the lump, six patients (20%) presented with skin changes (Ulcer, Peu d orange), and four cases (13.3%) presented with nipple retraction and nine cases (30%) presented with dilated veins[TABLE NO 2]. **SIZE OF THE BREAST LUMP** Of the 30 cases 50 % of the sample presented with lump size of 5-10 cm with a mean size of 11.1 cms[TABLE NO 3]. **PRE-OP DIAGNOSTIC INVESTIGATIONS** FNAC was done in 6 patients of which 4 were reported as phyllodes tumour.

Trucut biopsy was done in 24 cases, of which 24 were suggestive of phyllodes tumour. Slides and blocks reviewed from outside in 2 cases were phyllodes tumour. USG breast was done in 19 cases, of which 16 were reported as phyllodes tumour, two as fibroadenoma and 1 case as breast abscess[TABLE NO 4][FIG 1 &2].

FINAL HISTOPATHOLOGICAL REPORT ,The present study shows that most of the cases under the study belongs to benign category (63.3%), whereas borderline is 26.7% and malignant is 10%. The widely accepted definitions as proposed by Azzopardi and Salvadori et al has been used for this classification[TABLE NO 5] [FIG 3]. **COMPARISON of PRE-OP DIAGNOSIS, SURGERY UNDERWENT, FINAL HPE and RECURRENCE** 13 cases (43.3%) have recurrence (five of which had been operated previous outside our hospital) and no recurrence among 17 cases (56.7%). Among 13 recurrent cases, 5 cases were benign phyllodes, 6 borderline and 2 cases of malignant phyllodes[TABLE 6].

Age in years	Frequency	Percentage %
18-30	10	33.3
31-40	7	23.3
41-50	12	40
51-60	1	3.3

Table 1: Age Distribution

Presentation	Number	Percentage%
Lump	30	100
Pain	6	20
Nipple retraction	4	13.3
Skin changes	6	20
Dilated veins	9	30
Bosselated surface	10	33.3
Chest wall involvement	3	10
Distant metastasis	0	0

Table 2: Various clinical presentations of phyllodes tumour

Size	Number	Percentage %
<2 cm	0	0
2-5 cm	4	13.3
5-10 cm	15	50
10-15 cm	2	6.7
>15 cm	9	30

Table 3: Size Of Breast Lump

Investigation	Number	Diagnosed	Percentage %
FNAC	6	4	66.7
TRUCUT	24	24	100
USG BREAST	19	16	84.2
OUTSIDE REPORTS	2	2	100

Table 4: Preop diagnostic investigations

	Number	Percentage%
Benign	19	63.3
Borderline	8	26.7
Malignant	3	10

Table 5: Final histopathological report

Pre-op diagnosis	Primary surgery	Final HPE	Surgery for recurrence
Fibroadenoma	Wide Local Excision	Borderline	MRM
Phyllodes	Wide Local Excision	Benign	RM
Benign Proliferative Disease	Wide Local Excision	Borderline	WLE
Fibroadenoma	Wide Local Excision	Benign	SM
Phyllodes	Wide Local Excision	Borderline	WLE
Benign Proliferative Disease	Wide Local Excision	Benign	SM
Phyllodes	Simple Mastectomy	Malignant	WLE
Benign Proliferative Disease	Wide Local Excision	Borderline	RM
Phyllodes	Wide Local Excision	Malignant	SM
Benign Proliferative Disease	Wide Local Excision	Benign	WLE
Phyllodes	Wide Local Excision	Borderline	RM
Phyllodes	Wide Local Excision	Borderline	SM
Fibroadenoma	Wide Local Excision	Benign	WLE

Table 6: Comparison of pre-op diagnosis, surgery underwent, final HPE and recurrence

DISCUSSION

Cystosarcoma phyllodes is an uncommon fibroepithelial breast neoplasm that accounts for 0.3–0.5% of female breast lump cases. These tumors can occur in women of all ages, including adolescents and the elderly. The majority arise in women between ages 35–55 years.

Displaying a broad range of clinical and pathological behavior, phyllodes tumours should be regarded as a spectrum of fibroepithelial neoplasms rather than a single disease entity.

Clinical and pathological behavior ranging from benign (B), borderline (BL), and locally recurrent to malignant (M) and metastatic type[3].

Benign phyllodes tumours on clinical, radiological, and cytological examination are often indistinguishable from fibroadenomas and can be cured by local surgery.

The clinical course of PT is unpredictable and is commonly marked by a high incidence of local recurrence and unpredictable distant metastases[10]

With the negligible increased risk of malignancy and the recognition that 40% of fibroadenomas reduce in size over a two

year period, non-operative management has been widely adopted[11].

With the low prevalence of phyllodes tumours among all benign breast lumps, routine excision of all benign breast lumps cannot be advocated. However, treatment protocols need to be adopted that allow the timely identification of phyllodes tumours. As most phyllodes tumours grow faster than fibroadenomas, histological assessment and possible excision of a benign breast lump should be considered if rapid growth is seen during a period of observation.

Accurate cytological diagnosis of phyllodes tumours by fine needle aspiration can be difficult, hence tissue biopsy such as trucut is essential. The potential for phyllodes tumours to recur and metastasize was first recognized in the 1930s[12]. Most patients will not experience a recurrence, but even small, low-grade tumours may recur if inadequately excised. Most malignant phyllodes tumours do not recur or metastasize while some histologically benign tumours can show an usually aggressive clinical course[13][14]. Consequently, it has been suggested that all phyllodes tumours should be regarded with malignant potential[15][16].

Local recurrence appears to be related to the extent of the initial surgery and should be regarded as a failure of primary surgical treatment [17][18].

AGE AT PRESENTATION: [TABLE NO 7]

The age distribution of phyllodes tumor in the present study shows that most common affected age group was 41- 50yrs with 12 cases (40%). The youngest patient is 18 years old, while the oldest is 60 years old. The mean age in the present study is 36.9 years. A study in the Indian population by Benakatti Rajendra et al[22] has shown similar mean age, whereas the mean age was higher in American European studies.

MEAN SIZE OF THE BREAST LUMP:[TABLE NO 7]

The mean size in the present study is 11.1 cms with a majority of cases being 5 cms or more. Various previous studies had a lower mean size of the breast lump. The study by de Roos et al[23] had a mean size of breast lump of 8 cms, whereas the study by Benakatti Rajendra et al [22] reported a mean size of 6 cms.

Stebbing and Nash[19], Bennett et al[20], Mokbel et al[21] had a mean size of 3.7 cms, 3.5 cms, 4.6 cms respectively.

FINAL HISTOPATHOLOGICAL REPORT:[TABLE NO 7]:

The present study shows that most of the cases are benign category (63.3 %), whereas borderline were 26.7 % and malignant type 10 %. In various previous studies, benign tumour subtype was the most common type. In the studies by Bennett et al[20], Mokbel et al[21], Benakatti Rajendra et al[22] and de Roos et al[23] the second most common type was malignant, followed by borderline type. In the study by Stebbing and Nash [19] the second most common type was borderline followed by malignant type. In the present study most malignant tumours were in younger age group. In the study by Benakatti Rajendra et al[22], the malignant cases were in older age group, most of them being above 40 years of age.

	Mean age in years	Mean size in cms	HPE		
			BENIGN (%)	BODERLINE (%)	MALIGNANT (%)
Stebbing and Nash[19]	41	3.7	73	18	9
Bennett et al[20]	49	3.5	47	16	37
Mokbel et al[21]	49	4.6	70	7	23
Benakatti Rajendra et al [22]	37.4	6.0	66.7	13.3	20

de Roos et al[23]	44	8.0	39	29	32
Present study	36.9	11.1	63.3	26.7	10

Table 7: Comparison of age groups ,size of breast lump and Histopathological examination (HPE)previous study

MEAN DURATION OF SYMPTOMS:

The duration of symptoms in the present study ranges from 1 month to 24 months, of which most (53.3 %) patients presented with complaints of less than 6 months duration, with a mean duration of 7.5 months. The mean duration of symptoms varied widely in various previous studies. Niazi et al[24] had a similar mean duration of 8 months. Studies by Ramakant P et al[25] and P.R.K.Bhargav et al[26] had a higher mean duration of around 30 months.

LATERALITY OF BREAST LUMP

In the present study, out of the 30 cases, 13 were in the left breast (43.3%), 17 in the right breast (56.7%). In a study by Benakatti Rajendra et al, the breast lump was in the left breast in 53.3 % of patients, and in the right breast in 46.7% of patients.

PRESENTATION: PRIMARY vs RECURRENT

In the present study, out of the 30 cases, 56.7% were primary cases, 43.3% cases already underwent some form of surgery outside before presenting to our hospital

MODE OF PRESENTATION

All the cases in the present study presented with lump in breast and 20% patients presented with pain associated with the lump, 20% patients presented with skin changes (Ulcer, Peu d orange), and 13.3 cases presented with nipple retraction and 30% cases presented with dilated veins. There was no patient who presented with distant metastasis.

In a study by Benakatti Rajendra et al, all patients presented with lump in the breast as the chief complaint. The patients with complaint of pain was similar (20%). However nipple retraction was seen in 10 % of the patients, skin changes in 13.3% of patients, dilated veins in 10%. Distant metastasis was seen in 3.3% of the patients.

SIZE OF THE BREAST LUMP

Of the 30 cases 50 % of the sample presented with lump size of 5-10 cm with a mean size of 11.1 cms. In a study by Benakatti Rajendra et al, 9.4 % of tumours were <2cms in size, 21.8 % were 2-5 cms in size,

PRE-OP DIAGNOSTIC INVESTIGATIONS

In the present study FNAC was diagnostic of phyllodes in 66.7 % of the cases who underwent FNAC. Trucut biopsy was diagnostic in 100% of the cases. In a study by Benakatti Rajendra et al, FNAC was diagnostic in 50 % of cases and trucut was diagnostic in 85.7 % of the cases.

CONCLUSIONS AND SUMMARY

Phyllodes tumor is an uncommon breast tumour that accounts for 0.3–0.5% of female breast lump cases. The clinical course of PT is unpredictable and is commonly marked by a high incidence of local recurrence and unpredictable distant metastases[10]. Common in the age group of 41- 50yrs, with a mean age of 36.9 years. The mean duration of symptoms is 7.5 months.

Out of the 30 cases 56.7% were primary cases, 43.3% cases already underwent some form of surgery outside before presenting to our hospital. Out of the 30 cases, 13 were in the left breast (43.3%), 17 in the right breast (56.7%) All the cases (100%) presented with lump in breast and six patients (20%) presented with pain associated with the lump, six patients (20%) presented with skin changes (Ulcer, Peu d orange), and four cases (13.3%) presented with nipple retraction and nine cases (30%) presented with dilated veins. Of the 30 cases, 50 % of the sample presented with lump size of 5-10 cm with a mean size of 11.1

cms. Most of the cases under the study belongs to benign category (63.3%), borderline is 26.7% and malignant is 10%.

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