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Original Article

Phyllodes Tumor of the Breast: An Analysis of 342 Cases

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Abstract

Background: Phyllodes tumor of breast is one of the rare neoplasms comprising <1% of all breast tumors. The aim of the study is to evaluate the clinical characteristics, treatment regimens and complications of phyllodes tumor in our hospital.

Patients and Methods: We have retrospectively reviewed the medical records of patients who presented to our ESIS Hospital, Somwaripeth, Nagpur.

Results: A total of 342 patients presented with breast tumors of which 126 are malignant, and 216 are benign. Phyllodes tumor Constituted 8 cases of the total breast lump cases presented in our hospital from 2006 to 2016. 3 out of 8 cases are recurrent.

Conclusion: In benign cases wide local excision with clear margins is sufficient to prevent recurrence. In recurrent and malignant cases, simple mastectomy has to be done.

Keywords: Phyllodes tumor, Recurrent phyllodes, Simple mastectomy

INTRODUCTION

Phyllodes tumors are rare fibroepithelial neoplasms accounting for <1% of all breast tumors.[1] Phyllodes tumors occur almost exclusively in females, although rare case reports have been described in males. The tumors can develop in people of any age; however, the median age is the fifth decade of life. Trucut biopsy and histopathology are useful in the diagnosis of phyllodes tumor.

Pathology

Based on infiltrative margin, stromal overgrowth, stromal atypia and cellularity, and mitotic activity they are classified into.[2]

- Benign (common)
- Borderline
- Malignant.

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Clinical Presentation

Most of the tumor arises in women aged between 35 and 55 years (approximately, 20 years later than fibroadenoma).[3] Few cases have been reported in men, and these have invariably been associated with the presence of gynecomastia. It usually presents as a rapidly growing but clinically benign breast lump. In some patients, a lesion may have been apparent for several years, with clinical presentation precipitated by a sudden increase in size.

i. The skin over large tumors may have dilated veins and a blue discoloration, but nipple retraction is rare.[4]
ii. Fixation to skin and pectoralis muscles has been reported, but ulceration is uncommon.
iii. More commonly found in upper outer quadrant with an equal propensity to occur in either breast.
iv. Rarely, presentation may be bilateral.
v. The median size of phyllodes tumors is around 4 cm. About 20% of tumors grow larger than 10 cm (Giant phyllodes tumor). These tumors can reach sizes up to 40cm in diameter.[5]
vi. A significant proportion of patients have history of fibroadenoma and in a minority, these have been multiple.[6]

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vii. Palpable axillary lymphadenopathy can be identified in up to 10-15% of patients, but <1% had pathological positive nodes.

Treatment

If diagnosed preoperatively, tumor should be resected with at least 1 cm margins, particularly in the borderline and malignant phyllodes tumors. This can be accomplished by either lumpectomy or mastectomy, depending on the size of the tumor relative to the breast. For benign phyllodes tumors diagnosed after local excision of what appeared to be a fibroadenoma, a "watch and wait" policy does appear to be safe.[7,8] With such an approach, local recurrence and 5 years survival rates of 4% and 96%, respectively, have been reported for benign phyllodes tumors.[9] Whether patients with benign phyllodes tumors who have undergone local excision and have histologically positive specimen margins should undergo further surgery or be entered in a surveillance program is controversial. Reexcision of borderline and malignant phyllodes tumors identified after local excision should be considered.[10]

We have conducted the study to evaluate clinical characteristics, pathophysiology, treatment regimes, and complications of phyllodes tumor.

MATERIALS AND METHODS

The protocol is approved by ethics committee and written informed consent is obtained from each patient. A total of 342 patients had the diagnosis of breast tumor (benign and malignant) in our center from 2013 to 2015. Phyllodes tumor constituted 8 cases of the above, these are retrospectively evaluated in this study. All cases had a palpable mass in affected breast but no palpable axillary/supraclavicular/cervical lymphadenopathy. Ultrasonography, fine needle aspiration cytology (FNAC), and chest radiography were performed for all the cases. Chest and abdominal computed tomography (CT) scans were performed only for borderline and malignant lesions to rule out metastatic disease either preoperatively or post-operative. Trucut biopsy was done in all the cases. For lesions <5 cm/s wide local excision with at least 1 cm margin was performed. Simple mastectomy is performed for borderline and malignant or large benign lesions to obtain adequate margins. Lymph node dissection is not performed in any case. Malignant cases with or without metastasis are subjected to chemotherapy. Chemotherapy is by doxorubicin or dacarbazine with a combination of cisplatin or ifosfamide.

RESULTS

Median age at diagnosis was 48 years (30-60 years). 3 out of the 8 cases are benign, 4 are borderline, and 1 is malignant. The median tumor size was 13.25 cm (4-30 cm). All patients presented with a breast lump, mastodynia is noted in 3 cases.

3 out of these 8 cases have given a history of recurrence. One case had undergone mastectomy 1 year ago for the diagnosis of malignant phyllodes tumor, whose resected posterior margins are not free from tumor infiltration. Tumor recurred again, CT chest revealed lung metastasis. She was treated with simple mastectomy and was given adjuvant chemotherapy.

Other 2 cases had recurrence twice; one was after wide local excision, where post-operative histopathology found one case to be the benign and other case as borderline malignant (Figures 1 and 2).

Both of these patients had the first recurrence within 2 years of previous surgery for which simple mastectomy was done. The second recurrence occurred due to inadequate margins, for which lumpectomy was done.

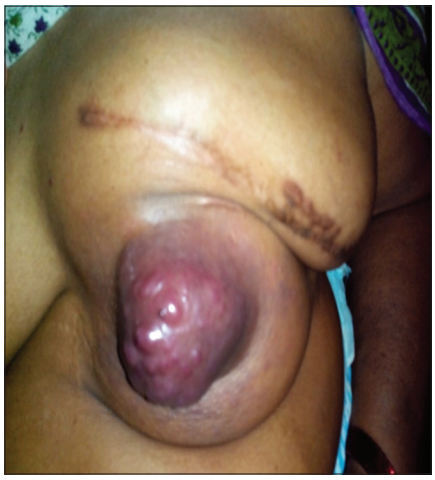

Figure 1: Case of recurrence after simple mastectomy

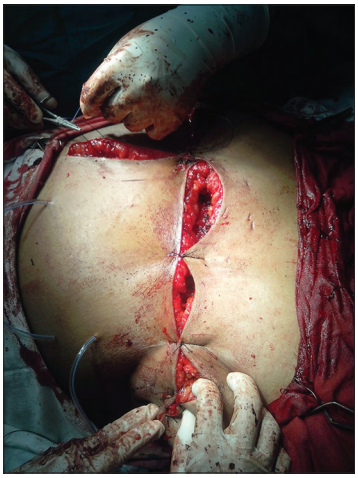

Figure 2: Intraoperative photograph

Table 1: Details of eight patients of phyllodes tumor

Age	Localization	Size	Classification	Local recurrence	Metastasis	Chemotherapy	Disease recurrence after treatment
60	R	25	Malignant	No	Yes	Yes	No
60	L	6	Borderline	No	No	No	No
42	L	5	Benign	No	No	No	No
59	R	20	Borderline	Yes	No	No	No
50	L	8	Borderline	No	No	No	No
30	L	4	Benign	No	No	No	No
40	L	8	Borderline	Yes	No	No	No
45	R	30	Benign	Yes	No	No	No

Simple mastectomy is performed in malignant phyllodes tumor.

All patients were disease free at a median follow-up period of 20 months (3-20 months). Table 1 depicts above details of all 8 cases of phyllodes tumor.

DISCUSSION

Phyllodes tumor is a rare fibroepithelial breast neoplasm with unpredictable clinical course, which resembles fibroadenoma; it accounts for 0.3-1% of all primary breast tumors and 2.5% of fibroepithelial breast lesions. Fibroadenomas account for almost all of the remaining fibroepithelial tumors. This tumor has very variable but usually benign course, and it has a propensity to locally recur and the ability to metastasize.

The median age group in which these tumors occur (45 years) is about 15 years older than the age group for fibroadenomas. Patients often present as palpable masses, most commonly located in the upper outer Quadrant of the breast. They usually grow slowly and are often painless. Nipple retraction and bloody nipple discharge may occur when the tumor involves the areolar region. Patients vary greatly in size with a mean size of 4-5 cm; larger tumors are more likely to be malignant.

Mammography and ultrasound appearances are non-specific and the pre-operative diagnosis of patient is difficult since rapid growth and/or large size of apparent fibroadenomas may be the only imaging findings suggesting patient. Patients appear on mammography as lobulated round or oval masses with well-circumscribed borders and rarely contain calcification. On sonography, patients are usually well-defined, solid masses with heterogeneous internal echoes, without posterior acoustic attenuation. A diagnosis of patient should be considered if sonography reveals fluid-filled, elongated spaces or clefts in a solid mass. It is often difficult to differentiate patient from fibro adenoma on sonography or mammography, and it is not possible to distinguish between benign and malignant patients on the basis of sonographic or mammographic findings. Magnetic resonance imaging may be used to delineate the full tumor extent and potential satellite lesions before surgical excision. Patients can occur synchronously with fibro adenoma with an incidence higher than the percentage seen in the general population. The percentage of concurrent fibroadenomas varies from 4.2% to nearly one-third of women with patients.

Treatment includes wide surgical excision with a margin of more than 1 cm even when pathologic features suggest benignity. Mastectomy is necessary only when tumor cannot be removed with adequate clearance. Most of the studies in the literature have found that a positive margin status is the most consistent indicator of local recurrence. Preoperative diagnosis is then important for good local control. Wide reexcision should be considered when the margins are involved microscopically. Metastasis in patient usually spread hematogenously to the lungs, pleura, or bone and axillary lymph node dissection is not indicated. Patients with locally recurrent disease should undergo wide excision of the recurrence.

CONCLUSION

- Most common age of presentation of phyllodes tumor is 4th and 5th decade.
- Usually, tends to occur left side.
- Most common presentation is breast lump.
- FNAC frequently fails to distinguish fibroadenoma from low-grade phyllodes tumor diagnosis of suspected phyllodes tumor should be by incisional biopsy to know grade of tumor and decide on type of procedure.
- Even though benign pathology is described as the most common, we had an equal incidence of benign and borderline cases.
- For benign cases, wide local excision with adequate margins is sufficient to prevent recurrence except for few exceptions where 1 cm safe margins from palpable lump is inadequate.
- In borderline and malignant cases simple mastectomy followed by chemotherapy has to be performed to prevent recurrence.

- Surgical margins, tumor size and tumor grade significantly increase the local recurrence.

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