

PARAMETERS THAT INFLUENCE THE PROGNOSIS OF PHYLLODES TUMOUR

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ABSTRACT

Objective: To evaluate the factors that influence the prognosis of patients with Phyllodes tumour.

Design & Duration: Interventional case series from April 2002 to April 2006.

Setting: Department of Surgery, Surgical Ward-2, Jinnah Postgraduate Medical Centre, Karachi.

Patients: Twenty two patients of Phyllodes tumour breast that were operated.

Methodology: Detailed data of all the patients was collected. Diagnosis of Phyllodes tumour was made on good clinical examination, ultrasonography, mammography and trucut biopsy. Primary treatment included wide local excision in 19 cases and mastectomy in three cases.

Results: All patients were females with a mean age of 31 years. Left breast was affected more (60%) than the right and a painless lump was the commonest presentation. Patients were divided into three groups after final histopathology report. Ten patients were reported as benign phyllodes who showed no recurrence on follow-up and four patient as borderline phyllodes, who developed recurrence within 12-18 months; while eight patients were reported as malignant phyllodes.

Conclusion: The key prognostic factors are status of margins, histological type and the size of the tumour. Trucut biopsy has greater yield of diagnosis and surgery remains the mainstay of treatment for Cystosarcoma Phyllodes.

KEY WORDS: Breast Tumours, Cystosarcoma Phyllodes

INTRODUCTION

Cystosarcoma Phyllodes (CSP) was first named and described by Johannes Muller in 1838, based on a gross pathological description of a "bulky, cystic, fleshy and leafy tumour of the breast"¹. It is, a neoplasm of breast that is characterized by the presence of both stromal and epithelial components. Cystosarcoma phyllodes is rare and its incidence is estimated to be 0.3% to 0.5% of all breast tumours^{2,3}.

The WHO classification was proposed in 1982 to promote uniformity in the recording and reporting of the breast diseases, and to facilitate international compa-

risons⁴. According to it the Phyllodes tumours were divided into benign, borderline and malignant. The classification criteria consisted of cellular atypia, stromal cellularity, sarcomatous differentiation, and mitotic index⁵.

Phyllodes tumor of breast may mimic the appearance of fibroadenomas. However, unlike fibroadenomas they have the potential to recur after excision and tumors with malignant grades may even metastasize⁶. This study was carried out to evaluate the factors that influence the prognosis of Phyllodes tumour and to differentiate it from other benign breast conditions.

PATIENTS & METHODS

Twenty two patients with Phyllodes tumour of the breast were operated in the Department of Surgery, Ward-2, Jinnah Postgraduate Medical Centre, Karachi from April 2002 to April 2006.

All patients were females with a mean age of 31 years (range 18 to 45 years). Painless lump in the breast was the commonest presentation and the left breast was

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affected in 60% of the patients. The diagnosis of Phyllodes tumour was made on a good clinical examination, ultrasonography, mammography and trucut biopsy. Primary treatment included wide local excision in 19 cases and mastectomy in three cases.

RESULTS

Cases were divided into three categories after final histopathology report (Table I):

Benign Phyllodes Tumour (n=10)

The mean of the patients in this group was 28 years (range 19-36 years), with an average tumour size of 5.75 cms (range 3-11cms). In one case re-excision was carried out due to involvement of one margin. The follow-up (6-60 months) of these cases showed no recurrence of the tumour (Table II).

Borderline Phyllodes Tumour (n=4)

The mean age of the patients in this group was 26 years (range 22-32 years), with an average tumour size of 10.25 cms (range 7 to 12 cms). Treatment carried out was wide local excision. The excision margins were free of the tumour (< 1cm). The follow-up showed recurrence of the tumour in all the cases after 12-18 months of primary surgery. Biopsy carried out this time reported Malignant Phyllodes, hence mastectomy was done, followed by adjuvant radiotherapy. During the 12-48 months follow-up, one patient expired due to lung metastasis, while the remaining three patients are tumour free.

Malignant Phyllodes Tumour (n=8)

The mean age of the patients in this group was 31.6 years (range 18-45 years), with an average tumour size of 15.3 cms (range 10-37cms). Wide local excision was performed in five cases primarily followed by mastectomy after histopathology report, while in three cases mastectomy was done primarily because the entire breast was involved by the tumour; radiotherapy was given to all the cases following mastectomy. During the follow-up period of 12-40 months, two patients expired following lung metastasis, while six patients are tumour free.

Table I. Types of Phyllodes tumour

Categories	Average Size	No.
Benign Phyllodes	5.75cms	10
Borderline Phyllodes	10.25cms	4
Malignant Phyllodes	15.30cms	8

DISCUSSION

Cystosarcoma Phyllodes is an unusual neoplasm of the breast that demonstrates extremes of biological activity. It continues to present problems to both histopathologists and surgeons alike because of its atypical and unpredictable behaviour. Benign as well as malignant lesions have been noted to metastasize and recur locally⁷. In one study, local recurrence occurred in 5% of benign tumours, 5% of borderline tumours and 37% of malignant tumours⁸. Recurrence in borderline cases was 100% in our series, which is much higher than that reported in the literature.

Norris and Taylor found that certain pathological criteria are useful in predicting tumours that are likely to behave in a malignant fashion. These include stromal over growth, nuclear pleomorphism, high mitotic rate and infiltrating margins⁹. Other studies have also reported the significance of the presence of necrosis and increased vascularity within the tumor¹⁰. In general malignant lesions tend to be larger than benign ones, as noted in the present series also.

Cystosarcoma Phyllodes has been described as occurring in women over a wide range of ages, pre-pubertal to elderly¹¹. The mean age of patients in this series was 31 years which is lesser than that noted in most published series¹².

Mammography is unreliable since many lesions do not have the typical features seen in the malignant disease¹³. Fine needle aspiration cytology has been shown to be of limited value because of difficulty in obtaining adequate numbers of stromal cells for cytogenetic analysis. Core needle biopsy has been reported to be useful in differentiating a Cystosarcoma Phyllodes from a fibroadenoma¹⁴.

Surgery remains the main stay of primary treatment. Certain guidelines on the surgical treatment of Cystosarcoma Phyllodes have been proposed. The aim is to excise the lesion with adequate margins to prevent recurrence. If the lesion is found to be malignant a simple mastectomy is recommended. For borderline lesions

Table II. Follow-up in Phyllodes tumours

Categories	Follow-up	No.
Benign Phyllodes	6-60 months	10
Borderline Phyllodes	12-48 months	4
Malignant Phyllodes	12-40 months	8

the optimal primary treatment is more controversial. Wide local excision was employed as the primary treatment in the present series. When a borderline lesion recurs after primary surgery a simple mastectomy may be required. Adjuvant radiotherapy for malignant Cystosarcoma Phyllodes have shown encouraging results¹⁵.

CONCLUSION

The key prognostic factors are:

- Status of margins: The prognosis is good if the excision margin are clear for >1cm.
- Histological type: Hypercellular stroma, high nuclear pleomorphism, high mitotic rate, infiltrating margins, presence of necrosis and increased vascularity with in the tumour, carries poor prognosis.
- Size of tumor: A size more than 5cms, carries poor prognosis.
- Trucut biopsy has greater yield of diagnosis.
- Surgery remains the primary treatment.
- Strict counseling for careful long-term follow-up is recommended.

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