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Phyllodes Tumor: One Experience Institute

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Background: Phyllodes tumors (PT) are uncommon fibroepithelial breast growths, which are capable of diverse biological behavior from benign fibroadenoma to malignant PT. They are composed of epithelial components and cellular spindle cell stroma forming a leaf-like structure.

Objective: To evaluate the clinical data, pathology, treatment and outcome of the disease.

Design: A Retrospective and Descriptive Study.

Setting: King Faisal Specialist Hospital and Research Center, Saudi Arabia.

Method: Personal characteristics of those enrolled in the study from January 2000 till January 2013 were documented. Clinical data retrieved from 24 patients were included. Patients' age, presenting symptoms and signs, tumor size, type of surgery, recurrence and follow-up were documented.

Result: Twenty-two patients were reviewed; the mean age was 38 years, all females presented with Right Upper Quadrant rapidly growing mass. The patients were investigated with mammogram, ultrasound and fine needle aspiration, which revealed different types of phyllodes tumor. Six (27.27%) patients had mastectomy, 14 (63.64%) had lumpectomy and 2 (9.09%) had skin sparing mastectomy. Histopathology, 8 (36.36%) patients had benign PT, 7 (31.82%) malignant PT, one (4.55%) benign border line, 2 (9.09%) no tumor, one (4.55%) spindle tumor and one (4.55%) fibroadenoma. The size was ranging between 2.5 cm to 25 cm. Five (22.72%) of them had their margin involved, 16 (72.73%) had free margin and one (4.55%) could not be assessed. Twenty patients had no recurrence within the last 5 years. One had recurrence after skin sparing mastectomy and implantation, one lost for follow-up and 2 died because of other diseases.

Conclusion: Phyllodes are rare breast tumors, which have unpredictable behavior. Surgical resection is the primary mode of treatment with adequate safety margins.

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Phyllodes tumors (PT) are rare fibroepithelial lesions that account for less than 1% of all breast neoplasms; in 1838, Johannes Mullers described it as cystosarcoma phyllodes. In 1982, WHO labeled the tumor as phyllodes, which was accepted internationally[1-5].

Phyllodes tumors usually are seen in females from 35 to 55 years but are rare in males. Phyllodes present as circular mobile mass which may be growing rapidly on the upper-right quadrant; other rare presenting signs are skin necrosis and blue discoloration.

Phyllodes tumor is a broad range tumor; it hardly correlates the histology and clinical behavior of the tumor. It is divided into 3 categories: benign, borderline and malignant phyllodes. The clinical criteria correspond to cellular atypia, stromal cellularity, sarcomatous differentiation and mitotic index, which would indicate the prognosis and outcome of the disease.

The mainstay of treatment is surgery ranging from enucleation to radical mastectomy according to the size, local recurrence rate and histological findings. The role of chemotherapy and radiotherapy still remain unclear and controversial depending on surgical margin, histological differentiation and metastasis.

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

METHOD

A retrospective medical record review was conducted from January 2000 to January 2013 for patient with phyllodes tumor of the breast for the last 13 years. Personal characteristics, clinical presentation, radiological, histology and outcome were documented.

RESULT

Twenty-two patients were reviewed, the mean age was 38. Patients presented with left or right breast mass at upper quadrant. Mammogram and ultrasound were performed which revealed a mass in the breast. FNAC was used to determine the pathology of the mass; all patients were treated with resection but they developed recurrence.

These patients were referred to our institute for further management; the histopathology slides were reviewed, repeated mammogram and ultrasound showed no suspicious metastasis.

Six (27.27%) patients had mastectomy, 14 (63.64%) had lumpectomy, 2 (9.09%) had skin sparing mastectomy, see figure 1. Eight (36.36%) patients were benign PT, 7 (31.82%) malignant PT, one (4.55%) benign border line, one (4.55%) no tumor, one (4.55%) spindle tumor, one (4.55%) had fibroadenoma, see figure 2. The mean size was 11.3 cm, ranging from 2.5 cm to 25 cm, 5 (22.72%) patients the margins were involved, 16 (72.73%) had free margin, one (4.55%) could not be assessed, see figure 3.

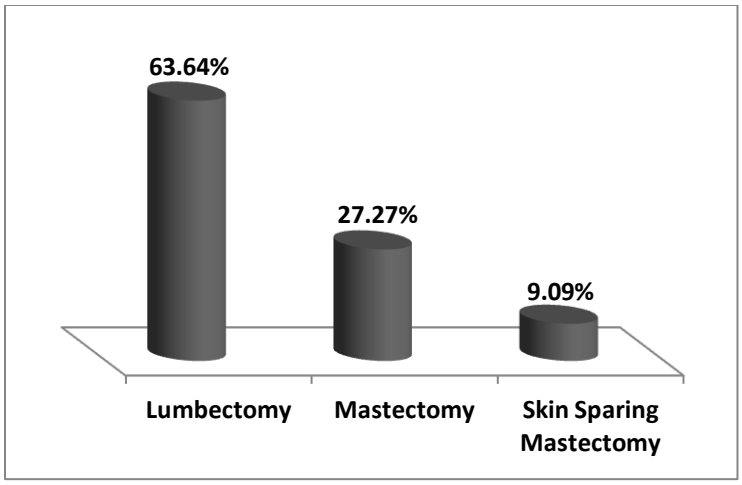

Figure 1: Surgical Modality

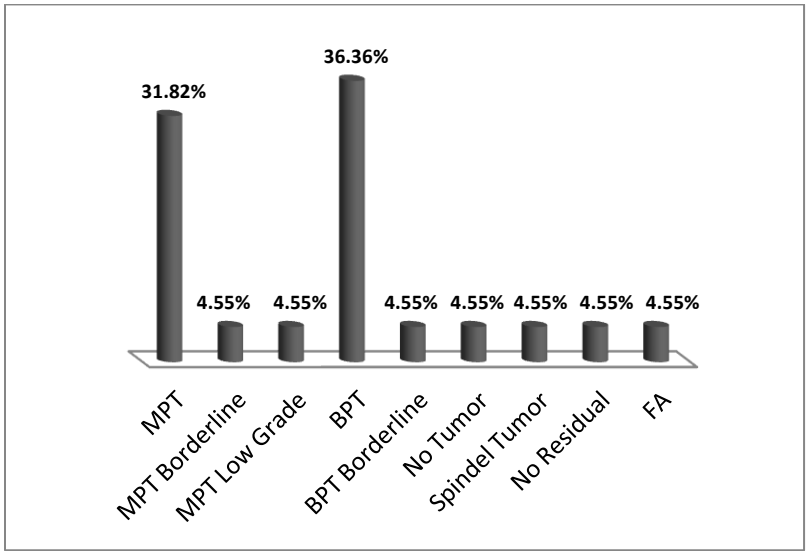

Figure 2: Histopathology Result

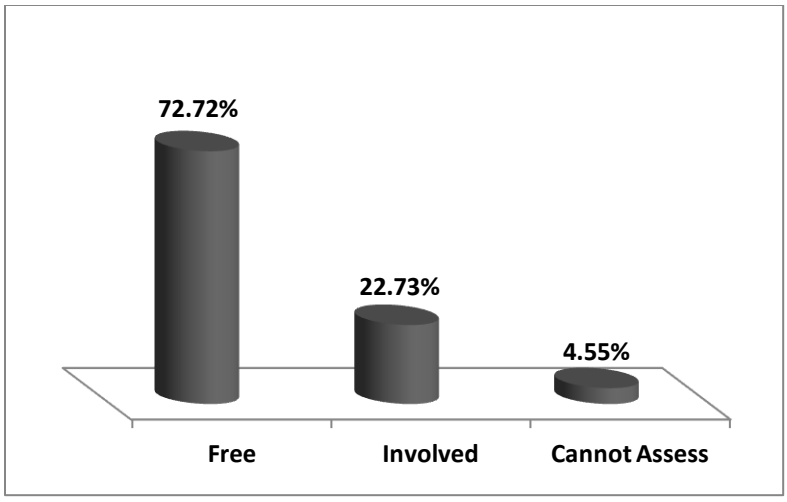

Figure 3: Tumor Margins

Provisional diagnosis preoperatively were compared with the histopathology reports postoperative, see table 1.

Table 1: Diagnostic Procedures

No	Provisional diagnosis	Histopathology	Microscopic Criteria
1	Malignant PT	No tumor	No Tumor cells
2	Malignant PT	High grade Malignant PT	Moderate Mitosis
3	Malignant PT	High grade malignant PT	Prominent Rhabdomyoblast
4	PT	Fibroadenoma	Fibrofatty Tissue
5	Benign PT	Borderline benign PT	Mild Mitosis
6	Atypical fibroadenoma	Benign PT	Cellular Atypia
7	PT	Malignant PT	Mitosis
8	Fibromyxoid lesions	Benign PT	Mitosis
9	Ductal epithelial proliferation	Malignant PT	Mitosis
10	PT	Benign PT	Hyper Cellularity
11	PT	Benign PT	Stromal Hyper Cellularity
12	Malignant PT	Malignant PT	Mitosis
13	Low grade malignant PT	No residual	No Mitosis
14	Benign PT	Benign PT	Stromal Growth
15	PT	Malignant PT	Mitosis
16	PT	High grade Malignant PT	Mitosis
17	Benign PT	Benign PT	Stromal Growth
18	PT	Benign PT	Atypical Stromal Cell
19	Spindle cell lesion	Malignant PT	Mitosis
20	Malignant PT	High grade malignant PT	Mitosis
21	Benign PT	Borderline benign PT	Hyper Cellular Spindle Cells
22	Benign PT	Benign PT	Mitosis
23	PT	Benign PT	Atypical Stromal Cell
24	Spindle cell lesion	Malignant PT	Mitosis

Twenty patients had no recurrence within 5 years; one had recurrence after skin sparing mastectomy and implantation, she was salvaged by resection and radiotherapy, one lost for follow-up and 2 have died because of other disease, see table 2.

Table 2: Follow-up and Recurrence

No	Histopathology	Follow-up	Recurrence
1	Benign PT (13 cm)	Over 5 years	No
2	Spindle tumor (18 cm)	Over 5 years	Yes
3	Malignant PT (9 cm)	Over 5 years	No
4	Malignant PT (5 cm)	Not Exceeded 5 years	No
5	Benign PT (13 cm)	Not Exceeded 5 years	No

DISCUSSION

Phyllodes tumor (PT) is a challenging breast tumor; its behavior and pathological diagnosis correspond to its treatment. Most studies concentrate on microscopic findings of pathological recurrence, survival, mitotic index activity, stromal overgrowth, tumor necrosis and lymph node metastasis[6-8].

The mainstay of PT management is conservative surgical resection with safe margin 1 cm to 2 cm recommended for benign, border line and malignant phyllodes[9-11]. Previous studies signify that axillary dissection is not recommended because it is rare to metastasize and account for 10%[12].

The role of radiotherapy and chemotherapy are still controversial for malignant phyllodes; previously radiotherapy was used to control local recurrence and improve survival rate; systemic chemotherapy was used for patient with stromal over growth[13]. To date, neither adjuvant radiotherapy nor chemotherapy are routinely used.

In comparison with other studies, all patients have been diagnosed with various types of phyllodes tumor according to microscopic findings but not considering the criteria of mitotic index parameters, which is the predictor pathological factor for recurrence and metastasis; on the other hand, all patients went for surgical resection without axillary dissection and safe margin as recommended in previous studies[6-8].

It is recommended that further study is to be performed to explore the role of chemotherapy and radiotherapy in phyllodes tumor and especially in the recurrence and aggressive spindle cell tumor.

CONCLUSION

Phyllodes tumor is rare breast tumor; it needs surgical resection with adequate margin to prevent local recurrence. The use of radiotherapy is still controversial which needs further study to determine its indication in this type of tumor.

Potential Conflicts of Interest: None.

Competing Interest: None. **Sponsorship**: None.

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Ethical Approval: Approved by the Department of General Surgery, King Faisal Specialist Hospital and Research Center, Kingdom of Saudi Arabia.

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