



PHYLLODES TUMORS OF THE BREAST TREATED IN A TERTIARY HEALTH CARE CENTER: CASE SERIES

Pathology

Dr Meenakshi Shankar

Senior Resident Department of Pathology, VMMC and Safdarjung Hospital, Delhi, India

Dr. Poonam Khambra*

Professor Department of Pathology, VMMC and Safdarjung Hospital, Delhi, India
*Corresponding Author

ABSTRACT

Phyllodes tumors account for 0.5% to 1.0% of all breast tumors. In this mesenchymal cells are of neoplastic potential.^[1]

Objective: This study was performed to determine the subtypes of phyllodes tumor (PT) and to describe their characteristics in patients at a single tertiary healthcare center.

Methods: This retrospective cohort study included all cases of PT of the breast treated at our hospital from 1 January 2015 to 31 December 2017. The patient's demographic, tumor characteristics, treatment and pathology reports were analyzed.

Results: Twenty five patients were enrolled. Their median age was 37 years. In total 80% had benign phyllodes, 12% borderline and 8% had malignant diseases. All 25 patients underwent surgery and no recurrence was found in follow up period of 2 years.

Conclusion: Phyllodes tumors are usually benign breast tumors which may be locally aggressive. However, they have significant cure rate and disease free duration.

KEYWORDS

Phyllodes tumors, breast tumors, breast conservative surgery

INTRODUCTION

Phyllodes tumors (PTs) account for 0.5% to 1.0% of all breast tumors. They are histologically distinguished from adenocarcinoma of the breast as in this mesenchymal cells are of neoplastic potential.^[1] PTs are histologically classified on the basis degree of stromal pleomorphism, mitoses, stromal overgrowth and nature of the tumour margins by the World Health Organization (WHO) as benign (35%–64%), borderline and malignant (10%–30%). Malignant PTs tend to recur and metastasize.^[2] Surgical excision with negative surgical margins is the mainstay of treatment. Radiation therapy (RT) is used if tumor is locally aggressive.^[3-5] We conducted this retrospective study to review the cases of PT, the histological subtypes of PT according to the WHO classification, the tumor characteristics and follow up of patients at a single tertiary health care center.

MATERIALS AND METHOD

This was a retrospective cohort study. We reviewed all the cases of PT of breast treated at a tertiary health care center, from 1 January 2015 to 31 December 2017. Patients of all ages with a histologically proven PT of the breast were eligible for inclusion. Each patient's hospital medical record was reviewed for demographic, clinical, treatment and pathological findings. Pathology slides and reports were reviewed. Patients were followed up for a duration of 2 years.

STATISTICAL ANALYSIS

was performed using SPSS Statistics for Windows, version 23.0. Descriptive analyses of demographics, tumor characteristics and treatment were conducted.

RESULTS

Our study cohort was comprised of 25 patients with histologically proven PT. The median age of the study population was 37 years (mean age, 32 years). Of the 25 patients, 18 (72%) had left breast disease, 7 (28%) had right breast disease. All (100%) patients underwent surgical tumor removal. Of these 25 patients, 21 (84%) underwent lumpectomy or wide local excision (breast conservative surgeries) and 4 (16%) underwent simple mastectomy. The median size of the tumors was 6.0 cm (mean size 5.2 cm). According to the WHO grading system, 20 (80%) of the resected tumors were benign, 3 (12%) were borderline and rest 2 (8%) were malignant PT. Histopathological examination of the surgical specimen showed that 3(12%) patients had positive surgical margins. All twenty five patients were stable at the last follow-up period of 2 years with no disease recurrence.

DISCUSSION

Phyllodes tumors accounts for 0.5% to 1.0% of all breast tumors. It is composed of epithelial and mesenchymal elements, the latter giving it its neoplastic features.^[1] On the basis of its histological characteristics

WHO classified PT into three types: benign, borderline and malignant.^[6-8] This classification helps to predict the development of local recurrence, metastatic disease or both. PTs are usually benign, less commonly borderline. (35%–64%) Malignant Phyllodes tumors account for 10% to 30% of all PTs and they have a higher chance of recurrence and metastasis.^[2]

In our study, we found 20 (80%) benign, 3 (12%) borderline and 2 (8%) malignant phyllodes tumors cases. Hence, we had slightly more number of cases of benign PT. PT mostly seen in women aged 35 to 55 years. They present as a well-circumscribed, firm, smooth, and may be painful mass.^[2,9] In present study, the age ranged was from 18- 62 years with median age is 37 years. Hence finding are similar to other studies.^[2,9]

Even benign PT is known to be locally aggressive, it was treated by mastectomy to ensure disease-free survival. However, now mastectomy has been replaced by breast conserving surgery (BCS) with adequate surgical margins as the treatment of choice.^[10-12] The most common site of metastases of PTs is the lung, followed by the bone, heart, and liver.^[13] Axillary lymph node dissection is not done as metastases to these lymph nodes is less than 1%.^[11,14] The optimal treatment for PT is resection with a 1-cm margin all around, particularly for borderline and malignant PT. The size of the tumor and type of PT determines the choice of surgery (lumpectomy versus wide local excision versus simple mastectomy).^[15]

In this study of 25 patients, 21 (84%) patients underwent lumpectomy or wide local excision (BCS) and 4 (16%) underwent simple mastectomy. The median size of the patients' tumors was 6.0 cm, and the mean was 5.2 cm. The type of the tumor and the margins after resection predict the likelihood of local recurrence and distant metastases.^[16,17] Studies shows, all patients who had recurrence had positive surgical margins.^[3,12] Thus, negative margins improves long-term survival and disease-free survival and reduce recurrence.^[3,18] Of the 25 patients who underwent surgery, pathological examination of the surgical specimen showed that 3(12%) patients (2 were benign PT and 1 was borderline PT) had positive surgical margins. During the follow up period of 2 years all the patient were disease free (no recurrence).

Various studies showed total mastectomy and BCS offer comparable survival benefits.^[19,20] Most of the patients of PTs donot required any further treatment other then surgical but some times radiotherapy may be given if locally aggressive.

CONCLUSION

Phyllodes tumors are usually benign breast tumors which may be locally aggressive. However, they have significant cure rates and

disease free interval. The first line of treatment for such tumors are breast conservative surgery and mastectomy. In this study our results are similar to the present literature in terms of its incidence, tumor type and treatment modalities.

PITFALL OF THE STUDY: Our study sample size was small.

FINANCIAL SUPPORT AND SPONSORSHIP: Nil.

CONFLICTS OF INTEREST: There are no conflicts of interest

REFERENCES:

1. Parker, SJ and Harries SA. Phyllodes tumours. *Postgrad Med J* 2001; 77: 428–435.
2. Reinfuss M, Mitus J, Duda K, et al. The treatment and prognosis of patients with phyllodes tumor of the breast: an analysis of 170 cases. *Cancer* 1996; 77: 910–916.
3. Pandey M, Mathew A, Kattoor J, et al. Malignant phyllodes tumor. *Breast J* 2001; 7: 411–416.
4. Barth RJ Jr, Wells WA, Mitchell SE, et al. A prospective, multi-institutional study of adjuvant radiotherapy after resection of malignant phyllodes tumors. *Ann Surg Oncol* 2009; 16: 2288–2294.
5. Gnerlich JL, Williams RT, Yao K, et al. Utilization of radiotherapy for malignant phyllodes tumors: analysis of the National Cancer Data Base, 1998–2009. *Ann Surg Oncol* 2014; 21: 1222–1230.
6. Treves N and Sunderland DA. Cystosarcoma phyllodes of the breast: a malignant and a benign tumor; a clinico- pathological study of seventy-seven cases. *Cancer* 1951; 4: 1286–1332.
7. Norris HJ and Taylor HB. Relationship of histologic features to behavior of cystosarcoma phyllodes. Analysis of ninety-four cases. *Cancer* 1967; 20: 2090–2099.
8. Azzopardi JG, Ahmed A and Millis RR. Problems in breast pathology. *Major Probl Pathol* 1979; 11: i-xvi, 1–466.
9. Guerrero MA, Ballard BR and Grau AM. Malignant phyllodes tumor of the breast: review of the literature and case report of stromal overgrowth. *Surg Oncol* 2003; 12: 27–37.
10. Zurrida S, Bartoli C, Galimberti V, et al. Which therapy for unexpected phyllodes tumour of the breast? *Eur J Cancer* 1992; 28: 654–657.
11. Chen WH, Cheng SP, Tzen CY, et al. Surgical treatment of phyllodes tumors of the breast: retrospective review of 172 cases. *J Surg Oncol* 2005; 91: 185–194.
12. Mangi AA, Smith BL, Gadd MA, et al. Surgical management of phyllodes tumors. *Arch Surg* 1999; 134: 487–493.
13. Abe M, Miyata S, Nishimura S, et al. Malignant transformation of breast fibroadenoma to malignant phyllodes tumor: long-term outcome of 36 malignant phyllodes tumors. *Breast Cancer* 2011; 18: 268–272.
14. Salvadori B, Cusumano F, Bo RD, et al. Surgical treatment of phyllodes tumors of the breast. *Cancer* 1989; 63: 2532–2536.
15. Cohn-Cedermark G, Rutqvist LE, Rosendahl I, et al. Prognostic factors in cystosarcoma phyllodes. A clinicopathologic study of 77 patients. *Cancer* 1991; 68: 2017–2022.
16. Abdalla HM and Sakr MA. Predictive factors of local recurrence and survival following primary surgical treatment of phyllodes tumors of the breast. *J Egypt Natl Canc Inst* 2006; 18: 125–133.
17. Kapiris I, Nasiri N, A'Hern R, et al. Outcome and predictive factors of local recurrence and distant metastases following primary surgical treatment of high-grade malignant phyllodes tumours of the breast. *Eur J Surg Oncol* 2001; 27: 723–730.
18. Fou A, Schnabel FR, Hamele-Bena D, et al. Long-term outcomes of malignant phyllodes tumors patients: an institutional experience. *Am J Surg* 2006; 192: 492–495.
19. Soumarova R, Seneklova Z, Horova H, et al. Retrospective analysis of 25 women with malignant cystosarcoma phyllodes—treatment results. *Arch Gynecol Obstet* 2004; 269: 278–281.
20. Moffat CJ, Pinder SE, Dixon AR, et al. Phyllodes tumours of the breast: a clinicopathological review of thirty-two cases. *Histopathology* 1995; 27: 205–218.