

## Case Report

# Phyllodes tumor in an adolescent female

Aafrin S. Baldiwala\*, Hiren P. Vaidya

Department of General Surgery, SMIMER, Surat, Gujarat, India

**Received:** 14 September 2021

**Revised:** 08 October 2021

**Accepted:** 12 October 2021

**\*Correspondence:**

Dr. Aafrin S. Baldiwala,

E-mail: [aafreenbaldiwala@gmail.com](mailto:aafreenbaldiwala@gmail.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

### ABSTRACT

Phyllodes is a tumor of breast. This fibro-epithelial lesion occurs in less than 1% of all breast tumors in female. They can be benign, borderline or malignant. It commonly occurs in age group of 45-50 years. It is also known as cystosarcoma phyllodes/ serocystic disease of Brodie. Treatment can be either wide local excision or mastectomy to achieve histologically clear margin. Palpable axillary lymphadenopathy can be identified in up-to 10-15% of patients but less than 1% has pathological positive nodes. Mammography and ultrasonography are main imaging modalities. Here, we present a case of a 14-year-old female presenting with a rapidly enlarging breast mass, which was ultimately found to be a Phyllodes tumor.

**Keywords:** Adolescent female, Breast, Phyllodes tumor

### INTRODUCTION

Cystosarcoma phyllodes are fibro-epithelial tumors that account for less than 1% of all breast neoplasms, described by Johannes Muller in 1838.<sup>1</sup> They are most commonly occurring non-epithelial neoplasm of the breast and have classical leaf like appearance on histological examination. The most common clinical presentation is a large solitary, unilateral breast mass, often found incidentally by the patient herself.<sup>2</sup> The tumor has an average diameter of 4 to 5 cm. These are fast growing tumors and can reach a median size of 4 cm and sometimes can grow up to 50 cm.<sup>3</sup> Mammography shows round densities with smooth borders and is distinguishable from fibroadenoma. Phyllodes tumor were classified as benign (70%), borderline (15%), or malignant (15%) based on histologic tumor characteristics i.e., cellular atypia, stromal overgrowth, tumor margins, tumor necrosis and mitotic count. Surgery is the primary modality of treatment.<sup>4</sup> Wide local excision with a margin of at least 1 cm is the surgery of choice. When the tumor size is large with respect to size of breast, total mastectomy may be required.<sup>5</sup> Axillary

lymph nodes can be identified clinically and by imaging, in up to 10-15% of patients but less than 1% has pathological positive nodes. Metastasis from malignant phyllodes tumor occurs via hematogenous route and common sites of metastasis are lung, bone, abdominal viscera and mediastinum. Recurrence rate of this tumor range from 15% and 20%. If tumor involves fascia or chest wall, or if the tumor is very large irradiation to chest wall is considered.<sup>6</sup>

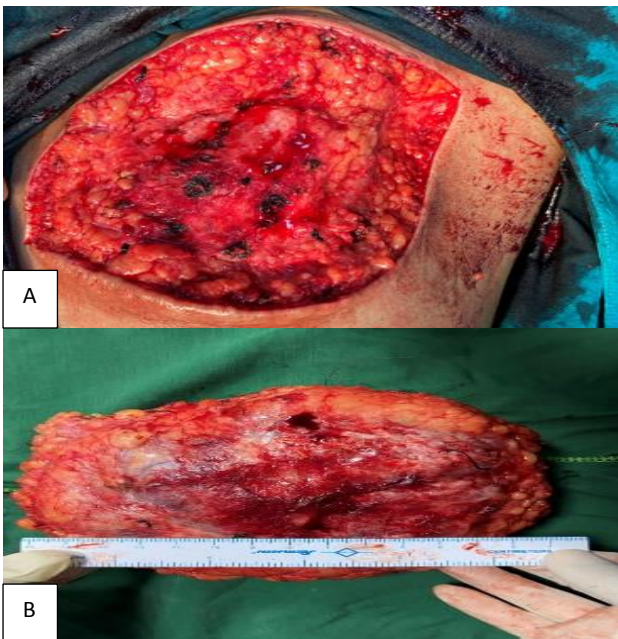
### CASE REPORT

A 14-year-old female was brought in the department of general surgery with an enlargement of left breast. Her elder sister had noticed the enlargement of the breast. It had rapidly increased over period of two months. Physical examination revealed an enlargement of left breast five times as compared to right breast (Figure 1). There were no palpable lymph nodes. She had no symptoms of breast pain. The patient denied any thickening, nipple discharge, nipple inversion, and increase in size or any noticeable changes on the contralateral breast. There were no symptoms of bone

pain, rib pain, headache, and shortness of breath. She had no family history of any breast disease. She got her menarche 6 months ago and the cycles were regular. No history of breast biopsy was present. Ultrasonography showed lobulated heterogeneous lesion with internal vascularity with no evidence of calcification in left breast. Right breast appeared normal. Mammography of left breast showed BIRADS classification III, probably of benign etiology. FNAC of left breast was done which showed fibro-collagenous tissue fragments with infiltrative cells composed of small round cells with hyper chromatic moderately atypical nucleus and scanty neoplasm. Patient underwent left breast simple mastectomy and the defect was primarily closed (Figure 2 A, B and Figure 3). No breast reconstruction was done as the patient was young and thus, we waited for completion of her teenage. The patient has been doing well after seven months of surgery with no current signs of metastasis or local recurrence.



**Figure 1: Left breast phyllodes tumor.**



**Figure 2 (A and B): Left breast simple mastectomy.**



**Figure 3: Defect closed after tumor removal.**

**DISCUSSION**

Primary breast neoplasms are uncommon among adolescent females and may be misdiagnosed as a physiologic breast mass, as these are more common in this demography. Like fibroadenoma, phyllodes is composed of both epithelial and mesenchymal elements. Its characteristically has increased stromal cellularity as compared with fibroadenoma and is surrounded by a pseudo-capsule composed of compressed breast parenchyma. Although rare, the tumor can be diagnosed preoperatively by their large size, skin involvement and lack of axillary nodes involvement. The world health organization (WHO) classifies phyllodes tumors into benign, borderline and malignant categories based on the degree of stromal hyper cellularity, cytological atypia, mitotic activity appearance of tumor border and stromal overgrowth. Lu et al in China reported the pooled local recurrence rates for benign, borderline and malignant PTs to be 8, 13 and 18%, respectively.<sup>7</sup> Phyllodes tumors constitute a rare subset of breast neoplasms (<1%), with a predilection for women in their late fifth to sixth decade of life. Here we report an adolescent female with large phyllodes tumor. Treatment of this tumor is individualized by considering many factors including tumor size and size of the patient's breast, extent of disease, tumor histology and aggressiveness. Hassouna et al recommend a simple mastectomy for malignant phyllodes tumor, whereas for borderline and benign phyllodes tumors treatment is based on wide excision with uninvolved margins.<sup>8</sup> Enucleation should be avoided, since even small low-grade tumors can recur if inadequately excised. When tumor is large with respect to size of breast, total mastectomy is required. If mastectomy is performed and the margins are negative, radiation therapy is not recommended. And if margins are concerning or close, if the tumor involves the fascia or chest wall, or if the tumor is very large, irradiation of the chest wall is considered. Chaney et al found adjuvant radiotherapy to be beneficial in patients with adverse features (e.g., bulky tumors, close or positive surgical margins, hypercellular stroma, high nuclear

pleomorphism, high mitotic rate, presence of necrosis, and increased vascularity within the tumor and tumor recurrence) but the use is controversial.<sup>9</sup> Here in our case simple mastectomy was planned as the tumor size was large. As the patient is adolescent, breast reconstruction is planned after attaining 18 years when the contralateral normal breast gains minimal possible growth. Latissimus dorsi flap is advised as the patient is young. TRAM flap is not advisable as there is scope of pregnancy. Mendel et al reported a case in which subcutaneous mastectomy was performed for a large phyllodes tumor, followed by immediate implantation of a breast prosthesis. They cite minimal interference with the detection of recurrent lesions and the minimization of emotional distress as advantages to the procedure.<sup>10</sup> Local recurrence rates for phyllodes tumors are 15 to 20% and are correlated with positive excision margins, rather than with tumor grade or size.<sup>11,12</sup>

## CONCLUSION

Phylloides tumor are uncommon in adolescent age group so appropriate assessment and management must be achieved to prevent misdiagnosing this aggressive tumor. It is non-specific clinical and radiologic findings and can easily be confused with other similar breast masses, particularly fibroadenoma. Surgery is the primary modality of treatment. The role of adjuvant radiation therapy is still controversial; however, it should be always kept in mind that local recurrence can develop even after appropriate surgery. Therefore, these patients should be closely followed up at regular six months intervals after surgery for three years.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

1. Singh G, Sharma RK. Immediate breast reconstruction for phyllodes tumors. *Breast*. 2008;17(3):296-301.
2. Ibreahem MH, Naguib S, Gamal M, Boutrus R, Gomaa MMM, Talaat O. Phyllodes tumors of the breast (the Egyptian experience). *Indian J Surg Oncol*. 2020;11(3):423-32.
3. Yahaya JJ. Recurrent giant phyllodes tumour in a 17-year-old female: a rare case report. *Oxf Med Case Reports*. 2020;2020(10):omaa089.
4. Makar GS, Makar M, Ghobrial J, Bush K, Gruner RA, Holdbrook T. Malignant phyllodes tumor in an adolescent female: A rare case report and review of the literature. *Case rep oncol med*. 2020;1989452:7.
5. Rowell MD, Perry RR, Hsiu JG, Barranco SC. Phyllodes tumors. *Am J Surg*. 1993;165(3):376-9.
6. Mishra SP, Tiwary SK, Mishra M, Khanna AK. Phyllodes tumor of breast: a review article. *ISRN Surg*. 2013;2013:361469.
7. Lu Y, Chen Y, Zhu L, Cartwright P, Song E, Jacobs L et al. Local recurrence of benign, borderline, and malignant phyllodes tumors of the breast: a systematic review and meta-analysis. *Ann Surg Oncol* 2019;26:1263-5.
8. Hassouna JB, Damak T, Gamoudi A. Phyllodes tumors of the breast: a case series of 106 patients. *Am J Surg*. 2006;192:141-7.
9. Chaney AW, Pollack A, McNeese MD, Zagars GK. Adjuvant radiotherapy for phyllodes tumor of breast. *Radiation Oncol Investig*. 1998;6(6):264-7.
10. Mendel MA, DePalma RG, Vogt C, Reagan JW. Cystosarcoma phyllodes: treatment by subcutaneous mastectomy with immediate prosthetic implantation. *Am J Surg*. 1972;23:718-21.
11. Mangi AA, Smith BL, Gadd MA, Tanabe KK, Ott MJ, Souba WW. Surgical management of phyllodes tumors. *Arch Surg*. 1999;134(5):487-93.
12. Khanna S, Gupta S, Khanna NN. Sarcomas of the breast: homogenous or heterogenous? *J Surg Oncol*. 1981;18(2):119-28.

**Cite this article as:** Baldiwala AS, Vaidya HP. Phyllodes tumor in an adolescent female. *Int Surg J* 2021;8:3460-2.