Case Report

DOI: 10.7860/JCDR/2026/87977.23563

Oncology Section

Juvenile Phyllodes Tumour of the Breast in an Adolescent Female: A Rare Case Report

LG PRABANCHAN[1], S KARTHIKEYAN[2], KAMBALA PRASANNA KUMAR[3], BALAKRISHNAN[4]

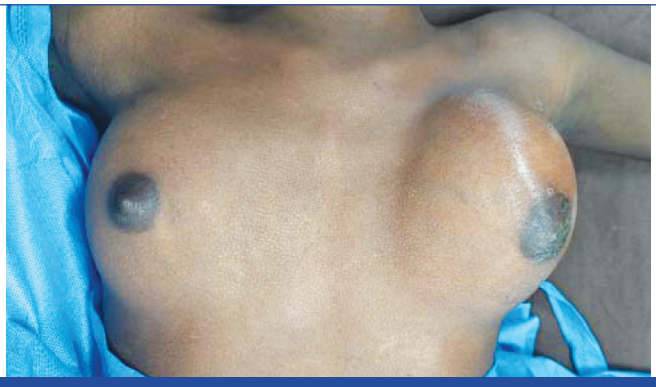
ABSTRACT

Phyllodes tumour is a rare fibroepithelial neoplasm of the breast, accounting for less than 1% of all breast tumours. Its occurrence in the paediatric and adolescent age group is extremely uncommon and often poses a diagnostic challenge due to its close resemblance to fibroadenoma. Early diagnosis is crucial, as incomplete excision is associated with a high-risk of recurrence. A 13-year-old premenarchal girl presented with a rapidly enlarging, lump in the left breast of one month duration. Clinical examination revealed a firm, non-mobile, tender mass measuring 7.0×6.0 cm. Ultrasonography suggested a left breast fibroadenoma and differential as phyllodes and Trucut showed features of a benign fibroepithelial lesion. The patient underwent wide local excision with adequate margins. Histopathological examination confirmed as boderline phyllodes tumour. The postoperative period was uneventful, and no recurrence was observed during six months of follow-up. Juvenile phyllodes tumour, though rare, should be considered in adolescents presenting with rapidly enlarging breast masses. Wide local excision with clear margins remains the treatment of choice to prevent recurrence while preserving breast development.

Keywords: Adolescent breast lump, Borderline phyllodes tumour, Fibroepithelial tumour, Wide local excision

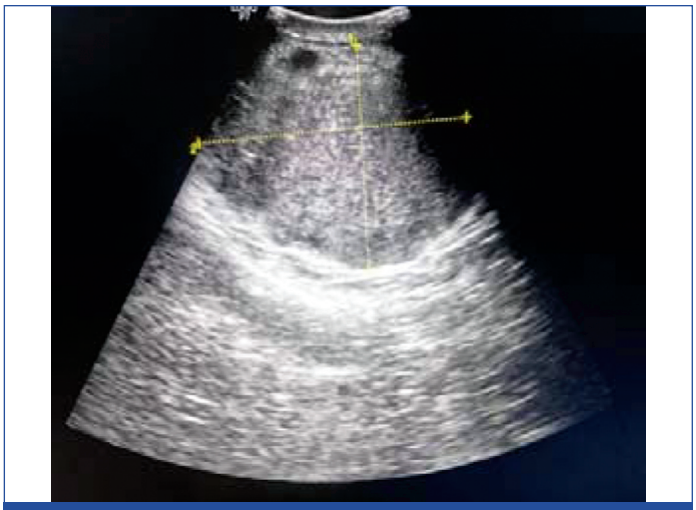
CASE REPORT

A 13-year-old premenarchal female presented to the surgery department at a tertiary care centre, with complaints of progressively enlarging lump in the left breast for one month. There was no history of trauma, nipple discharge, skin changes, fever, or weight loss. Family history was non-contributory. On inspection, asymmetry of the breasts was noted due to enlargement of the left breast with Tanner stage IV grading. The overlying skin and nipple-areolar complex were normal [Table/Fig-1].

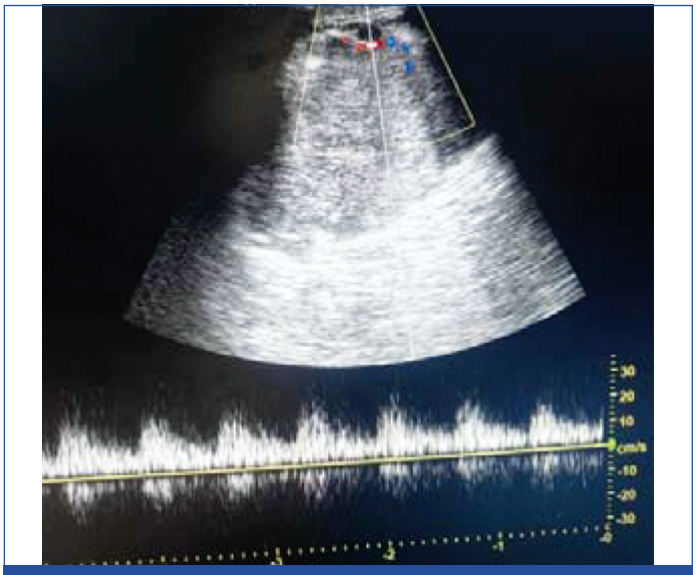


[Table/Fig-1]: Physical presentation of the breasts showing size difference.

On palpation, a firm, non-mobile, tender, lobulated mass measuring approximately 7.0×6.0 cm was detected in the upper outer quadrant of the left breast. The mass was not fixed to the skin or chest wall. No axillary or supraclavicular lymphadenopathy was present. Examination of the right breast was normal. Ultrasonography of the left breast revealed a well circumscribed, hypoechoic solid-lesion measuring 7.0×6.3×5.9 cm with posterior acoustic enhancement and minimal internal vascularity on colour doppler was noted in the left breast extending from subcutaneous plane till the chest wall. Few sub-centimetric lymph node with preserved fatty hilum noted in the left axillary region, largest measuring 0.8 cm in its short axis [Table/Fig-2]. The features described are most consistent with a fibroadenoma, with important differentials including phyllodes tumour and Pseudoangiomatous Stromal Hyperplasia (PASH). Colour doppler analysis showed minimal vascularity [Table/Fig-3].

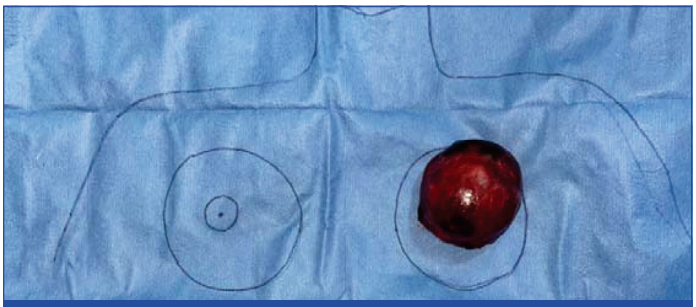


[Table/Fig-2]: Ultrasound image of the left breast, yellow lines showing dimensions of the tumour: 1-7.0 centimetre; 2-6.3 centimetre.

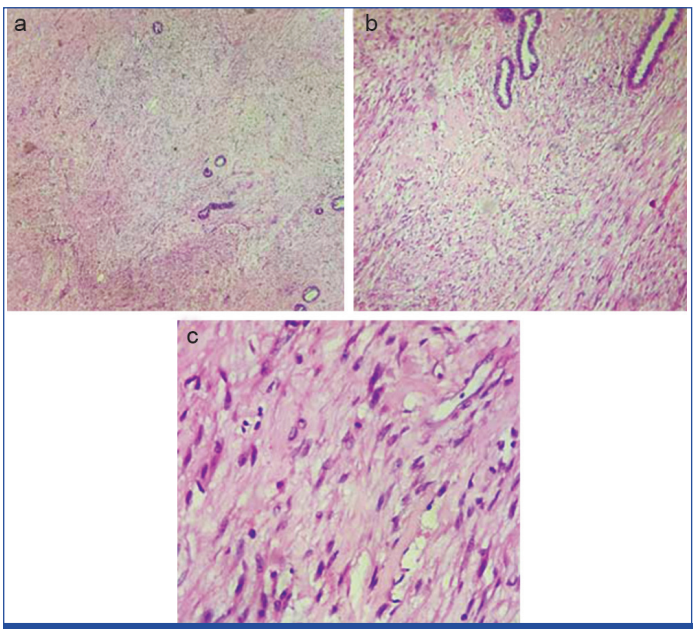


[Table/Fig-3]: Colour doppler showing minimal vascularity.

Trucut biopsy showed low mitotic activity, mild stromal cellularity with no atypia and spindle cell proliferation, which was suggestive of a benign fibroepithelial lesion, with differential diagnoses including benign phyllodes tumour and juvenile (cellular) fibroadenoma. Attributed to the rapid growth and size of the lesion, the patient was managed by wide local excision under general anaesthesia. The tumour was excised through circumareolar incision with approximately 10 mm gross margins, with care taken to preserve normal breast tissue and achieve a satisfactory cosmetic outcome. The lump was identified, wall was delineated, lump removed in-toto with 10 mm margin [Table/Fig-4]. The excised specimen was sent for histopathological analysis. The histopathological gross examination showed a single nodular soft-tissue mass measuring 8.0×7.0×6.0 cm. Cut surface showed predominantly fibrous area with slit like spaces and focal cystic changes. Microscopic examination revealed a circumscribed neoplasm composed of leaf like epithelial pattern with an exaggerated intracanalicular pattern with subepithelial stromal condensation [Table/Fig-5].



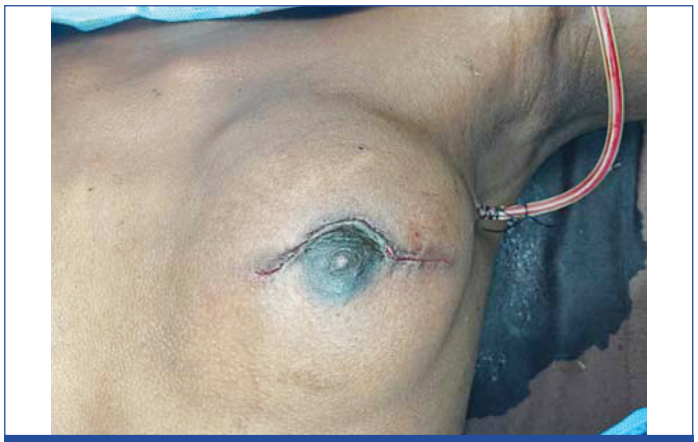
[Table/Fig-4]: Excised tumour mass from the left breast of the patient.



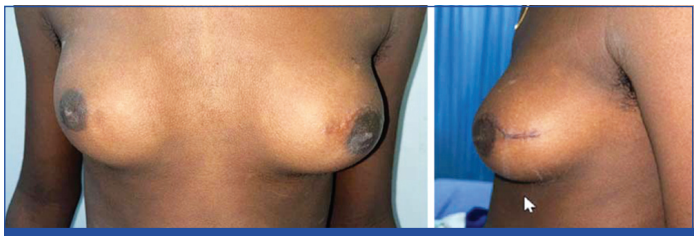
[Table/Fig-5]: Haematoxylin and eosin stain of the excised specimen showing linear cores of breast tissue with predominantly fibrous stroma and focal epithelial lining exhibiting hyperplastic changes: a) 4x; b) 10x, yellow arrow showing intracanalicular cells, black arrow showing stromal cells; c) 40x magnification, stroma showing spindle shaped cells.

Epithelial lining exhibits hyperplastic changes with microcapillary projections. Mitosis increased upto 6-8/10 HPF in mitotically active areas. Mild nuclear atypia and moderately increased stromal cellularity was observed and focal areas showed prominent stromal overgrowth. No heterologous elements and infiltration were noted. These findings confirmed the diagnosis of a borderline phyllodes tumour. The patient was initiated on intravenous paracetamol 1 g twice daily for postoperative analgesia. The postoperative period was uneventful. The patient was discharged fifth postoperative day [Table/Fig-6].

The patient was followed up first at 15th postoperative day, followed by every six months follow-up for next three years. The patient was out-station candidate, so first physical follow-up was carried out two months late, at eighth month which showed no evidence of local recurrence or breast deformity on physical and ultrasound imaging, followed by second follow-up at 14th month, showing normal findings and no signs of recurrence [Table/Fig-7].



[Table/Fig-6]: Immediate postoperative image.



[Table/Fig-7]: Follow-up image at 14th month.

DISCUSSION

Phyllodes tumours are rare fibroepithelial breast neoplasms, usually noted in 35- to 55-year-old females. It is categorised into benign, borderline and malignant subtypes. It constitutes <1% of all breast neoplasms and approximately 2-3% of fibroepithelial tumours [1]. Occurrence in children and adolescents is exceedingly rare, with very few cases reported in the literature. Ultrasound imaging and clinical presentations of phyllode tumours can be a diagnostic challenge attributed to the overlapping clinical and radiological features with fibroadenoma. This can potentially delay the accurate diagnosis and management [2,3]. Imaging modalities such as ultrasonography and mammography are useful but cannot reliably differentiate phyllodes tumours from fibroadenomas, making histopathological examination the definitive diagnostic modality. Although, in adolescents ultrasound imaging is more preferred as compared to mammography due to increased sensitivity of ionising radiations in this age group [2,4]. Though ultrasound might not provide a clear demarcation between benign and malignant types [5].

Juvenile phyllodes tumours are known for their rapid growth and large size at presentation which might be misdiagnosed as fibroadenomas. Fine-Needle Aspiration Cytology (FNAC) and core needle biopsy can be helpful in concluding the pre-operative diagnosis and plan the management [4]. The mainstay of treatment is wide local excision with adequate margins. Surgical management by wide local incision with ≥1 cm surgical margins. Some research studies have reported that inadequate excision margin of <1 cm is associated with 16-40% recurrence [6]. Also, there are no specific guidelines for juvenile or paediatric patients a caution is needed in context of growing breast tissues in this cohort unlike adults where the breast tissue is completely developed [3]. Recurrence has been noted in patients with >2 years postsurgery [7]. Hence, awareness of this rare entity is essential for timely diagnosis and optimal surgical management.

This case report describes a rare presentation of benign juvenile phyllodes tumour in a 13-year-old girl, who presented with a pain-less rapidly growing mass in her left breast, which raised the suspicion of phyllodes tumour. Clinical case reports have shown the patients to have varied range of clinical presentations such as

inversed nipples, bloody discharge, pain with rapid growth being the most common presenting feature in all the cases [3,7,8]. A similar case to this patient with painless rapidly growing mass, no significant family history and no other symptoms in a 12-year to 19-year-old females has been reported in the published literature. Though, there is no left or right breast predominance noted [3,9-11]. Contrarily, as reported by Yahaya JJ [12], who described a 17-year-old female with a two-year long history of painful ulcerating mass of 31×30×21 cm, who was managed by surgical excision and no local recurrence or metastasis was noted [12]. Symptomatic presentation in this case was reported for one month only, though Kenjale SH et al., reported a case of a 12 year-old-female with a long history of one year initially as painless growing mass, which was later painful. The pain was noted as localised and non-radiating [2]. Contrarily, a case report of 19-year-old Indonesian female observed rapidly growing breast with dimensions 24×20 cm approximately in only three months, with altered contour, texture and tender oval shape [6]. Phyllodes tumour are commonly observed in third or fourth decade of life in females, it is very rare in juveniles and adolescents [2,12]. This patient due to early diagnosis and complete excision resulted in an excellent outcome with no recurrence till date of submission of the case report and satisfactory cosmetic results.

CONCLUSION(S)

Juvenile phyllodes tumour is a rare breast neoplasm in adolescents and should be considered in the differential diagnosis of rapidly enlarging breast masses with or without other clinical presentations. Ultrasound imaging in addition to FNAC can be helpful in pre-operative diagnosis. A customised case-based approach involving surgical excision with adequate margins is essential to prevent recurrence. Although, long-term follow-up is essential to track recurrence.

REFERENCES

[1] Donato AR, Goncalves R, Maesaka JY, Aguiar FN, Soares JM Jr, Ruiz CA, et al. Phyllodes tumours of the breast: A comprehensive review of diagnosis, treatment, and follow-up. Clinics (Sao Paulo). 2025;80:100617. Doi: 10.1016/j.clinsp.2025.100617.

[2] Kenjale SH, Dighe SP Sr, Shinde RK, Jogdand SD, Ghode DB. Bilateral phyllodes in a 12-year-old adolescent: Report of a rare case. Cureus. 2022;14(8):e27567. Doi: 10.7759/cureus.27567.

[3] Maciulaitis T, Rimdeikaite M, Gudaviciene D, Jakutis N. Giant juvenile phyllodes tumour: A case report. Front Surg. 2025;12:1617716. Doi: 10.3389/fsurg.2025.1617716.

[4] Zhou ZR, Wang CC, Yang ZZ, Yu XL, Guo XM. Phyllodes tumours of the breast: Diagnosis, treatment and prognostic factors related to recurrence. J Thorac Dis. 2016;8(11):3361-68. Doi: 10.21037/jtd.2016.11.03.

[5] Wolbert T, Leigh EC, Barry R, Traylor JR, Legenza M. Early stage malignant phyllodes tumour case report. Int J Surg Case Rep. 2018;42:148-53. Doi: 10.1016/j.ijscr.2017.12.013.

[6] Prihantono, Satria B, Faruk M. Juvenile phyllodes tumour of the breast. Journal of Pediatr Surg Case Rep. 2020;57:101448. Doi: 10.1016/j.epsc.2020.101448.

[7] Yoneyama K, Nakagawa M, Hara A. Benign phyllodes tumour with hemorrhagic cyst in a 14-year-old girl: A case report. Int J Surg Case Rep. 2020;67:114-16. Doi: 10.1016/j.ijscr.2020.01.037.

[8] Lian J, Gao L, Yao R, Zhou Y, Sun Q. Case report: A 13-year-old adolescent diagnosed as malignant phyllodes tumour combined with rhabdomyosarcoma differentiation. Front Oncol. 2023;13:1233208. Doi: 10.3389/fonc.2023.1233208.

[9] Issara K, Houjami M, Sahraoui S, Bouchbika Z, Benchakroun N, Jouhadi H, et al. Phyllodes tumour in a 12-year old teenage girl: About a case and review of the literature. Pan Afr Med J. 2016;25:20. French. Doi: 10.11604/pamj.2016.25.20.10219.

[10] Nemsadze D, Tkeshelashvili V, Nemsadze G, Mchedlishvili M, Shemerovskiy A. Female pediatric malignant heterogenic phyllodes tumour: A rare case report with literature review. J Med Case Rep Case Series. 2023;4:13. Doi: 10.38207/JMCRCS.

[11] Makhija D, Shah H, Bothra J, Jayaswal S. An adolescent with a phyllodes tumour: A case report and review. Int J Pediatr Adolesc Med. 2016;3(4):180-83. Doi: 10.1016/j.ijpam.2016.03.005.

[12] Yahaya JJ. Recurrent giant phyllodes tumour in a 17-year-old female: A rare case report. Oxf Med Case Reports. 2020;2020:omaa089. Doi: 10.1093/omcr/omaa089.

PARTICULARS OF CONTRIBUTORS:

1. Junior Resident, Department of General Surgery, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.
2. Associate Professor, Department of General Surgery, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.
3. Senior Resident, Department of General Surgery, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.
4. Professor, Department of General Surgery, Sree Balaji Medical College and Hospital, Chennai, Tamil Nadu, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

S Karthikeyan,
Associate Professor, Department of General Surgery, Sree Balaji Medical College and Hospital, No: 7, CLC Works Road, Chromepet-600044, Chennai, Tamil Nadu, India.
E-mail: drsk1287@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]

- Plagiarism X-checker: Feb 19, 2026
- Manual Googling: Mar 11, 2026
- iThenticate Software: Mar 14, 2026 (1%)

ETYMOLOGY: Author Origin

EMENDATIONS: 6

AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Feb 05, 2026**
Date of Peer Review: **Feb 25, 2026**
Date of Acceptance: **Mar 17, 2026**
Date of Publishing: **Jun 01, 2026**