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Case Report

A 12 Year Old Pre-Menarche Female with Large Phylloides Tumour Occupying Almost Entire Breast: A Rare Case Report

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Abstract

Phylloides tumours are rare fibro epithelial tumours that account for 0.3%-0.5% of all breast tumours in females. They are rarely observed in adolescent. Bring rare it poses a great diagnostic dilemma as there are no established surgical management protocols. In our case, it was a 12 year old pre-menarche girl which was managed with conservative wide local excision which turned to be a benign phylloides tumour.

Introduction

Breast lumps are uncommon in children. The most common type of breast mass found in the adolescent population is a fibroadenoma. Phylloides tumours are rare fibro epithelial tumours that account for 0.3%-0.5% of all breast tumours in females. They are rarely observed in adolescent [1].

Accurate preoperative pathological diagnosis allows correct surgical planning and avoidance of reoperation, either to achieve wider excision or for subsequent tumour recurrence [2-4]. At one extreme, malignant phylloides tumours, if inadequately treated, have a propensity for rapid growth and metastatic spread. In contrast, benign phylloides tumours on clinical, radiological, and cytological examination are often indistinguishable from fibroadenoma and can be cured by local surgery's, with only very few cases reported [5].

Case Presentation

12-year-old pre-menarche girl presented with a large lump in her left breast for 6 months that gradually increased in size to the present size. Local examination revealed a 15 cm ×15 cm, well circumscribed, firm, lobulated surface and freely mobile lump, with no fixity to skin or chest wall, occupying the entire volume of left breast, visible dilated veins, stretched and shiny skin over breast with no axillary lymphadenopathy (Figure 1). The right breast was normal.

Ultrasound revealed a 16 cm × 11 cm × 9 cm solid, homogenous, hypoechoic and encapsulated lesion with minimal vascularity and no calcification. Cytology was suggestive of a fibroadenoma or phylloides tumour.

The patient was planned for a wide local excision using a circumareolar incision. A 15 cm × 15 cm encapsulated lump with smooth lobulated surface occupying almost entire left breast was excised. The normal breast parenchyma being pushed medially due to the mass (Figure 2 and 3). The histopathological analysis revealed that it was a benign phylloides tumour with margins reaching the inked surface (Figure 4).

Discussion

The evaluation of an adolescent presenting with a breast mass differs substantially from that of an adult because of marked differences in breast cancer risk and breast architecture. There is less emphasis on exclusion of malignancy, as paediatric breast masses are typically benign (95% benign fibroadenoma) [2]. Management of paediatric breast masses is primarily conservative. Clinical observation over two to four months is appropriate. Masses that increase by more than 1 cm and those larger than 2 cm warrant ultrasonographic percutaneous biopsies to confirm the benign nature [2].

Phylloides tumours are rare fibroepithelial tumours that account for 0.3%-0.5% of female breast tumours, the peak of which occurs in women between the ages of 45 and 49 years [4]. This type of tumour is rarely found in adolescents. Only about 20 cases have been reported in children [1]. A large breast lump with history of rapidly increasing size and ultrasound features suggestive of a fibroadenoma (except a size >2 cm) should arouse high suspicion of a phylloides tumour

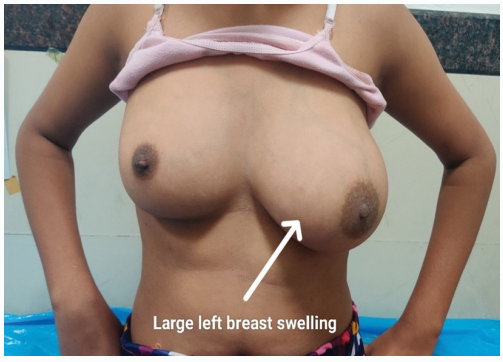

Figure 1: Pre-operative image of enlarged left breast with smooth, well defined, mobile swelling with dilated superficial vein.

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Figure 2: Intraoperative image showing excision of lesion through circumareolar incision.

Figure 3: Intraoperative image showing approximately 15 × 15cm tumour excised with intact capsule.

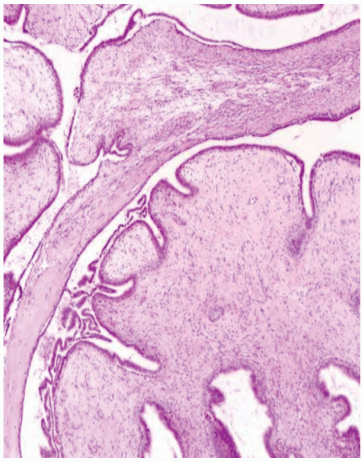

Figure 4: Histopathological H&E image under 15x magnification showing features of phylloides tumour.

[5]. Axillary node involvement is rare. Another characteristic feature of these tumours is a high rate of local recurrences (5%-20%) [6]. Fibroadenoma and phylloides tumours share many common features. Clinically, both present as rounded, circumscribed, moveable masses. Histologically, both can be grouped as "fibroepithelial lesions". Preoperative diagnosis poses a diagnostic difficulty, as fine needle aspiration cytology and core needle biopsy may not be able to distinguish a phylloides tumour from a fibroadenoma [5] (Table 1).

The WHO classifies phylloides as benign, borderline or malignant based on histopathological features [7] (Table 2). The benign variant is most common, with only 10%-25% of cases being malignant. The rate of distant metastasis for the malignant tumours is 15%-25% [6]. Phylloides tumours are managed by wide local excision. In cases of large lumps, a mastectomy may be necessary. A recent study by Yom et al concluded that a clear margin of 0.1 mm is equivalent to a margin of 1 cm [8]. Due to the rarity of the condition in younger age groups, an individualized, case-based approach and regular follow up are advisable. As per the National Comprehensive Cancer Network (NCCN) guidelines, in cases with local recurrence, resection with wide, tumour-free surgical margins should be performed. Adjuvant therapy has no proven effect. In cases of systemic metastasis, treatment is based on the soft tissue sarcoma protocol [9].

Table 1: Histopathological comparison of fibroadenoma and phylloides.

	Fibroadenoma	Phyllodes tumor
History	Long duration and slow growing	Short duration and rapidly growing
Histopathologic characteristics	Duct-like spaces surrounded by fibrous stroma	Characteristic leaf-like pattern
Mitotic figures	Not observed	Present
Stromal overgrowth and stromal infiltration	Not observed	Present
Surgical Management	Enucleation	Wide local excision
Local recurrence	Not known	Common
Metastasis	Not known	May be observed in malignant phyllodes

Table 2: Histopathological grading of phylloides.

Criteria	Benign	Borderline	Malignant
Stromal cellularity and atypia	Minimal	Moderate	Marked
Stromal overgrowth	Minimal	Moderate	Marked
Mitoses/10 high power fields	0-4	9-May	≥ 10
Tumor margins	Well circumscribed with pushing tumor margins	Zone of microscopic invasion around tumor margins	Infiltrative tumor margins

Conclusion

1. Adolescent young female presenting with large breast solid swelling, fibroadenoma is usually considered as preferred first differential, however although rare phylloides should be considered.
2. Aggressive excisional approach should be carefully considered as most of these tumours are benign and this might lead to cosmetic disfigurement of breast which can lead to mental and psychological impact.
3. Very few large phylloides in young adolescent females are reported online and has no fixed surgical management protocol and hence poses a diagnostic dilemma.

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