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Rare benign tumor in a prepubescent accessory breast: a case report

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Abstract

Background: Polymastia or accessory breast is a congenital condition seen in 1% of the population at birth and in 2–6% of the female population. The most common presentation is in the pubertal age group when secondary sexual characters begin to develop or during pregnancy and lactation. Giant cell fibroblastoma is an exceedingly rare benign soft tissue neoplasm in the pediatric age group, usually seen over the back and thigh. We report a case of giant cell fibroblastoma in accessory breast tissue in a 4-year-old, female child. This case is rare in its presentation at the age of 4 years with an enlarging accessory breast without any secondary sexual characters. Giant cell fibroblastoma in the accessory breast tissue is unreported yet.

Case presentation: A 4-year-old female child presented with a progressively enlarging accessory breast. A wide local excision of the accessory breast with underlying growth was done. The histopathological examination revealed a giant cell fibroblastoma within the breast tissue.

Conclusions: Enlargement of an accessory or normal breast at a prepubescent age with the absence of secondary sexual characters should arouse suspicion of benign tumors in the breast tissue.

Keywords: Polymastia, Accessory breast, Pediatric, Giant cell fibroblastoma, Case report

Background

Accessory breast is an uncommon congenital condition seen at birth in 1% of the total population and in 2–6% of the female population [1]. Various terminologies have been used to describe accessory breast tissue. Supernumerary breasts or polymastia is breast tissue found along the milk line, with or without the nipple-areolar complex. Aberrant breast tissue is an island of breast tissue located in proximity to the normal breast. In contrast to supernumerary breasts, aberrant breast tissue lacks organized secretory systems [2].

Accessory breast tissue is most commonly located in the axilla, but locations outside the milk line, including the face, posterior neck, chest, middle back, buttock, vulva, flank, hip, shoulder, upper extremities, and posterior and lateral thigh have also been reported [2].

Accessory breast tissue, like a normal breast, responds to hormonal influences and may come to attention during menarche, pregnancy, or lactation [2]. The most common presentation is in the pubertal age group when breasts and secondary sexual characters begin to develop [3].

This case is rare in its presentation at the age of 4 years with an enlarging accessory breast without any evident secondary sexual characters and the finding of a giant cell fibroblastoma in the accessory breast tissue on histopathological examination.

Giant cell fibroblastoma is a rare soft tissue benign tumor which predominantly occurs in children [4]. It has a male predilection (3:1) [5] and occurs in the back and thigh areas [6]. These tumors occur exclusively in the dermis and subcutaneous tissue. This is the first reported case of a giant cell fibroblastoma presenting in the accessory breast tissue. Giant cell fibroblastoma has the propensity to locally recur but not metastasize [7]. Treatment of choice is excision with clear margins.

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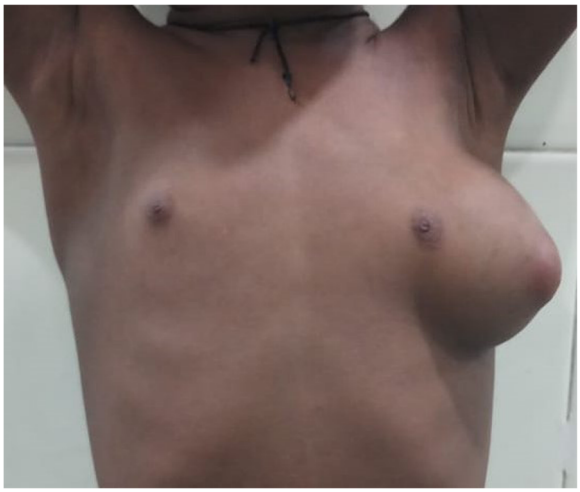

Fig. 1 Clinical photograph

In another case report, the tumor was masquerading as gynecomastia in a 5-year-old male child. Excision with clear margins would have required excision of the overlying nipple-areola complex. However, the nipple-areola complex was preserved and the patient kept on regular follow-up for any signs of recurrence [8]. In our patient, as the tumor was present in the accessory breast tissue, the overlying areola with the tumor could be excised keeping adequate margin, while preserving the native nipple-areolar complex. The patient has been on regular follow-up since a year and shows no signs of recurrence.

Case presentation

A 4-year-old female child presented with a painless swelling on the left side of the chest with an overlying areola since birth. The swelling was initially 2 cm in diameter and gradually increased to about 8 cm over a period of 4 years. No complaints of discharge from the swelling or areola.

Local examination revealed the left and right nipple-areola complex in their normal anatomical position. No palpable breast tissue was found underlying the normal nipple-areola complex on both sides. No other secondary sexual characters were noted. A 9 × 8 cm, well-circumscribed, soft to firm lump was present just lateral to the left nipple-areolar complex. The skin over the most prominent region of the lump showed a 2 × 2 cm pink-hued areola-like region, which was adherent to the underlying lump (Fig. 1). The lump was freely mobile over the chest wall. No other swelling was present in the body.

Ultrasound was suggestive of an accessory breast with an underlying lump. The accessory breast with the swelling of 7 × 8 × 5 cm weighing 120g (Fig. 2) was excised with a wide margin (1cm). The native nipple-areolar complex with underlying tissue was preserved.

Histopathological examination revealed a giant cell fibroblastoma, an intermediate-grade neoplasm within the accessory breast tissue. Immunohistochemistry was positive for the presence of estrogen receptors (ER) and progesterone receptors (PR).

The patient is on regular follow-up with no signs of recurrence.

Conclusions

Polymastia is a rare congenital condition and usually presents in the pubertal age group. Enlargement of an accessory or normal breast at a prepubescent age with the absence of secondary sexual characters should arouse suspicion. Giant cell fibroblastoma, a rare benign childhood tumor, has propensity for local recurrence. A clear surgical margin of excision with regular follow-up is essential.

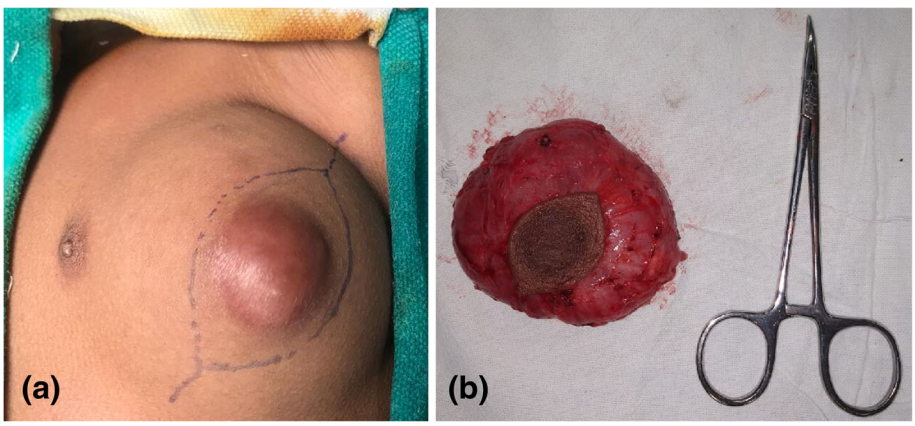

Fig. 2 a Incision for accessory breast excision. **b** Excised specimen

Abbreviations
ER: Estrogen receptors; PR: Progesterone receptors; Fig.: Figure

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Authors' contributions
AT conceptualized and wrote the manuscript with orientation. AM and SB helped in the collection of literature search for the discussion. SG and VJ aided in the collection of images and design of the study. NSS and HS edited the manuscript with a bibliography check. All the authors assessed and approved the final version of the manuscript.

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Declarations

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Not applicable

Consent for publication
The patient's parents gave written informed consent to publish the data contained within this study.

Competing interests
The authors declare that they have no competing interests.

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