

Giant Juvenile Fibroadenoma of the Breast in a 12-Year-Old Girl

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Abstract

Giant juvenile fibroadenomas, encountered usually in adolescents, are rapidly growing benign breast masses which lead to discomfort, anxiety and significant psychological stress. The breasts are in their early formative years, and thus, it is important to rule out malignancy as well as plan treatment options to preserve as much breast tissue as is possible. This report highlights a case of giant juvenile fibroadenoma diagnosed in a 12-year-old female child and our endeavour to achieve a good aesthetic result.

Keywords: Breast lump, giant fibroadenoma, infra-mammary incision, juvenile

INTRODUCTION

Any rapidly growing fibroadenoma exceeding 5 cm in size or 500 g in weight or replacing at least 80% of the breast tissue is termed as giant fibroadenoma.^[1] These tumours when found in the age group of 10–18 years, are known as giant juvenile fibroadenoma.^[1] Due to their large size at presentation, they pose a challenge to surgeons since preservation of breast tissue as well as acceptable cosmetic appearance both are extremely important for the physiological and psychological well-being of the child. Here, we present a case of giant juvenile fibroadenoma in a 12-year-old girl.

CASE REPORT

A 12-year-old girl came to our outpatient department with the complaint of a rapidly growing painless lump in her right breast for 3 months which was associated with discomfort. She had attained menarche 8 months back and had regular menstrual cycles. There was no history suggestive of trauma, cough, haemoptysis, weight loss, fever, a similar disease in family members, cancer in family, oral contraceptive intake or irradiation to the chest. On examination, two non-tender lumps of the approximate size of 10 cm × 6 cm and 8 cm × 8 cm were palpable, occupying upper and lower outer quadrants of the right breast, respectively, such that the right breast was asymmetrically enlarged with an enlarged nipple-areola complex [Figure 1]. The temperature was not



Figure 1: Asymmetrically enlarged right breast with shiny tense skin and superficial venous prominence

raised. The overlying skin was shiny with superficial venous prominence. There was no nipple discharge. Both the lumps had smooth surfaces, well-defined margins on palpation and were firm in consistency. They were not fixed to skin or underlying structures. The left breast and bilateral axillae were normal on examination. The general and systematic examination was within the normal limits. Ultrasound of the breast showed two large hypoechoic lesions measuring

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88 mm × 56 mm and 68 mm × 56 mm in the upper and lower outer quadrants, respectively, with no evidence of axillary lymphadenopathy, suggestive of fibroadenomas. Fine-needle aspiration cytology (FNAC) was done from both the lumps, which corroborated with the ultrasound findings, showing tightly cohesive clusters of benign ductal epithelial cells in branching pattern against fibromyxoid stroma in the background, without any evidence of malignancy, which was suggestive of fibroadenoma. Laboratory and biochemical parameters were normal. Lump excision through submammary incision was planned for the child, and after proper informed consent and discussion with her parents, she was posted for lumpectomy under general anaesthesia. Both the lumps were enucleated with ease through an 8 cm submammary incision, haemostasis was secured and skin approximated with vertical mattress sutures after the placement of a corrugated rubber drain, which was removed 24 h later [Figure 2]. On gross examination, the lumps having a smooth lobulated surface and firm consistency measured 9 cm × 6 cm and 5 cm × 4 cm. Histopathological examination showed partially encapsulated glandular acini of breast having cleft-like lumen, increased fibrocollagenous cell elements and stromal oedema with no evidence of atypical cells confirming the diagnosis of juvenile fibroadenoma [Figure 3]. The post-operative recovery was uneventful. At 7-day follow-up, the wound had healed satisfactorily and breast symmetry was restored to a great extent [Figure 4]. At 2-month follow-up, there were no complications and breast development was normal.

DISCUSSION

Giant juvenile fibroadenomas occurring at a mean age of 15 years may be multiple and bilateral and account for 0.5% of all fibroadenomas.^[1] Hormonal changes during puberty such as increased oestrogen stimulation, increased oestrogen receptor sensitivity and reduced oestrogen antagonists are considered to be important in the pathogenesis of this entity.^[2,3] Differential diagnoses include phyllodes tumour, hypertrophy of breasts, breast abscess, breast cyst, lipoma, hamartoma and adenocarcinoma. A simple aspiration can be curative in a breast cyst, whereas incision and drainage is required in a breast abscess. Reduction mammoplasty is the treatment for juvenile breast hypertrophy, and wide excision or mastectomy is required for phyllodes tumour.^[4] Therefore, as treatment options and prognoses for all these diagnoses are different, a surgeon must exclude these differentials when dealing with such a condition. This can easily be done with the help of ultrasound imaging and FNAC, which are safe, reliable and cost-effective and have excellent patient compliance, enabling us to come to a proper decision regarding the surgical procedure that will be best suited for the patient. In this case, a 12-year-old post-pubertal child came to us having giant juvenile fibroadenoma in her right breast, who was diagnosed pre-operatively with ultrasound and FNAC. This rapidly growing lump was not only uncomfortable for the child but



Figure 2: Inframammary approach with the placement of a corrugated rubber drain

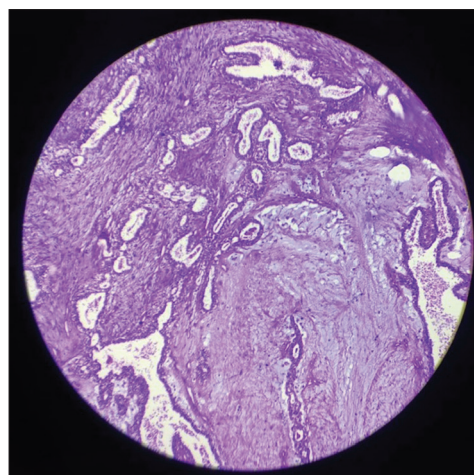


Figure 3: Histopathological examination of excised lump showing cleft-like lumen, increased fibrocollagenous cell elements and stromal oedema with no evidence of atypical cells



Figure 4: Appearance at 7-day follow-up

also psychologically and emotionally crippling her due to her external appearance. Such a large swelling compresses

and distorts the normal architecture of the breast, leading to its impaired development. Thus, the treatment of this entity should cater not only to completely excise the lump but also to preserve as much breast tissue as is possible for the future normal development, as well as make it cosmetically acceptable. Various techniques of excision of the lump have been described, which aim at cosmesis and minimising distortion. A simple inframammary or circumareolar approach with or without T-shaped lateral extension, without reconstructive procedures has shown good cosmetic and post-operative results.^[5,6] ‘Swiss roll’ technique and ‘Saw tooth’ operation have been reported to have an excellent outcome in the maintenance of shape and symmetry of the breast.^[5,7] Video-assisted endoscopic lump removal through retromammary approach, with or without morcellation is a minimally invasive procedure now done in many centres.^[5,8] For very large breast masses, endovascular embolisation of the internal mammary artery and lateral thoracic artery, followed by lump excision and reduction mammoplasty is also being done.^[9] We tried an inframammary incision in this case, and post-operative results have been quite satisfactory.

Thus, the important take-home message for the surgeon is careful planning regarding the surgical technique to be used for the excision of a giant juvenile fibroadenoma to preserve the functionality of the breast, ensuring an acceptable cosmetic result and alleviation of the psychological distress of the child or adolescent.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have

given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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