

Case Report

Modified Lateral Oncoplastic Surgery for Giant Breast Fibroadenoma with Flat Epithelial Atypia: A Case Report

 Suman Khanal,¹  Neha Singh,²  Aditya Paudel,³  Yogendra Singh⁴

¹Department of Surgical Oncology, BP Koirala Memorial Cancer Hospital, Chitwan, Nepal

²Cancer Research Associate, Nepal Cancer Education Foundation, Kathmandu, Nepal

³Medical Student, American University of the Caribbean School of Medicine, Cupecoy, Sint Maarten

⁴Surgical Oncology, Department of Surgery, Tribhuvan University Teaching Hospital, Kathmandu, Nepal

Abstract

Giant fibroadenoma is rare after the age of 30. It can lead to asymmetry or deformity of the breast after simple excision. In this report we present our technique of simple modified lateral oncoplastic surgery for excision of 11x7 cm giant fibroadenoma occupying almost the outer half of left breast in a 42-year-old premenopausal, Tibeto-Burman lady with an excellent aesthetic outcome. Histopathological examination revealed fibroadenoma with focal flat epithelial atypia. While giant fibroadenoma itself is uncommon at this age, the association with flat epithelial atypia is rarer and its significance is not known conclusively.

Keywords: Flat epithelial atypia, giant fibroadenoma, lateral oncoplastic breast surgery

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Giant breast fibroadenomas (GFA) are common benign lesions in women <30 years of age. However, such lesions are rare in older women.^[1] GFA, larger than 5 cm in size and/or >500 g in weight, usually presents unilaterally and is associated with asymmetry or deformity of the breast.^[2] Therefore, surgical removal of the giant breast fibroadenoma is the standard of care.^[3] Various treatment modalities have been practiced for giant fibroadenoma of the breast. Just the simple excision of the giant fibroadenoma might lead to asymmetry or deformity of the breast. Simple oncoplastic techniques are better suited to excise GFAs and achieve good aesthetic outcome. Among the oncoplastic techniques, lateral oncoplastic breast surgery (LOBS) was used to remove large invasive breast cancers and phyllodes tumors in the outer quadrants of the breast with an excellent aesthetic outcome.^[4]

Flat epithelial atypia (FEA) includes lesions of the terminal duct lobular units wherein dilated acini are lined by one to several layers of columnar epithelial cells. FEA usually indicates low-grade cytologic atypia. It is of uncertain clinical significance but pure FEA patients showed association with cancer in a meta-analysis.^[5,6] In this report, we present a case of GFA with focal FEA with no association with cancer, in outer half of left breast managed with modified LOBS with good cosmesis. This work has been reported in line with SCARE criteria.^[7]

Case Report

A 42-year-old Tibeto-Burman woman presented with a left breast lump for one and a half years which had increased for last 3 months. Her menstrual cycles were regular and had no known comorbidities. Clinical examination showed

Address for correspondence: Suman Khanal, MD. Department of Surgical Oncology, BP Koirala Memorial Cancer Hospital, Chitwan, Nepal

Phone: 9840092726 **E-mail:** suman81765@gmail.com

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a 12x8 cm firm mobile tumor in the whole lower outer and lower part of upper outer quadrant (Fig. 1). There was no axillary lymphadenopathy. The bilateral mammogram revealed a dense breast (BIRADS 0). Ultrasonography (USG) showed a well-defined hypoechoic tumor measuring 11x7 cm. Core needle biopsy (CNB) confirmed fibroadenoma with focal flat epithelial atypia (FEA).



Figure 1. Marking of tumor and the planned skin incision. Tumor is marked occupying whole of the lower outer and lower part of upper outer quadrant.

The patient underwent left breast lumpectomy and modified lateral oncoplastic surgery under general anesthesia. A peri-areolar skin reduction incision was given (Fig. 1). Subsequently, the skin flap was raised over the tumor around the incision. The lump located deep was completely excised with a big V shaped defect, the apex lying anteriorly (Fig. 2a). The superomedial and inferolateral glandular flaps were then approximated with 3/0 absorbable sutures. The skin was closed with subcuticular sutures without a drain. The excised specimen was sent for histopathological examination (Fig. 2b).

Postoperative period was uneventful. The patient was discharged on second post operative day and followed up at 7 days, one month, 6 months, and then once a year. An excellent cosmesis and symmetry was achieved (Fig. 3). Histopathological examination revealed a marked stromal and epithelial proliferation with proliferating stroma around multiple ducts in a peri-canalicular pattern. Apocrine and myxoid changes were seen at places. Focally glands showed stratification with papillary infoldings. Mild nuclear atypia was also seen. The final histopathological diagnosis was giant fibroadenoma with focal flat epithelial atypia.

Discussion

Fibroadenoma is the most common cause of benign breast lumps.^[8] While fibroadenomas are common and seen between 14-35 years of age, giant fibroadenoma (GFA) defined as size > 5cm or weighing > 500 gms or replaces more than 80% of breast, is less common.^[9] GFAs account

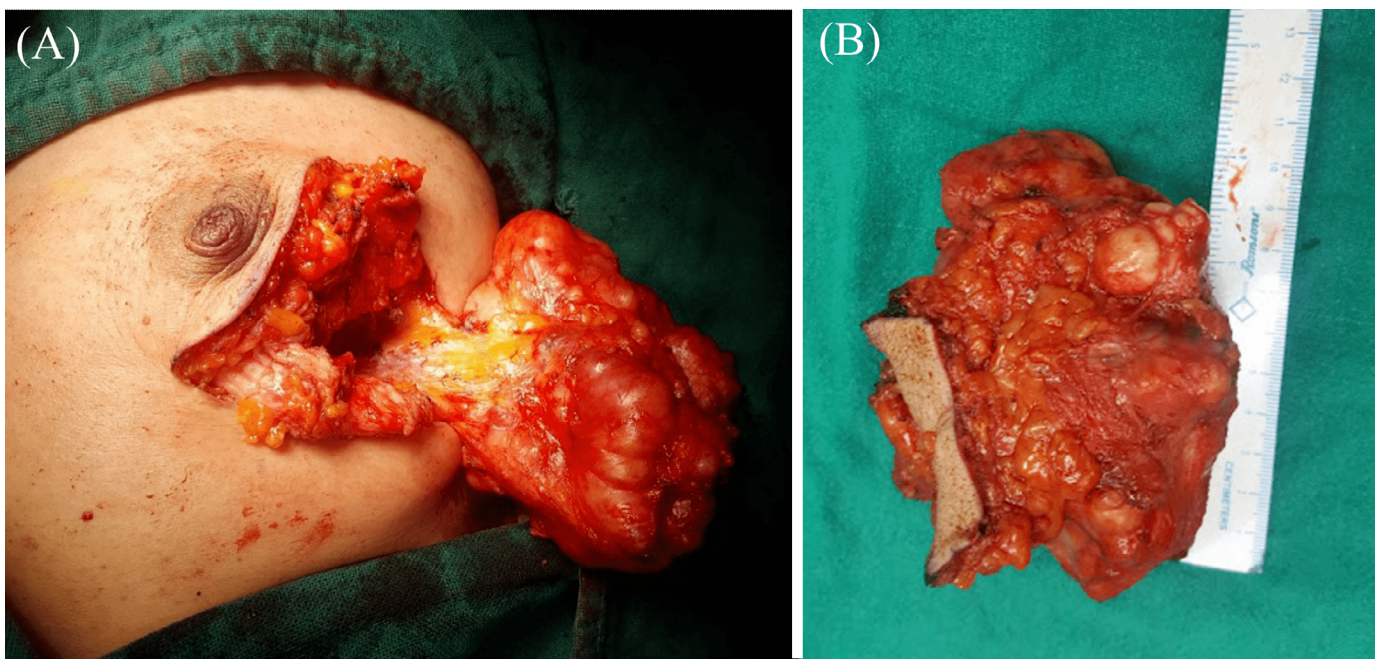


Figure 2. (a) Lumpectomy with the defect, intact capsule (b) Size of the lump 11x7cm.



Figure 3. At 6 months follow up with well-maintained bulk and symmetry.

for 0.5-2% of fibroadenomas.^[10,11] They appear biologically distinct to usual fibroadenomas with over expression of genes involved in cell growth.^[12] The giant fibroadenoma reported in the most elder woman was at 43 years of age.^[13] Our case is unique in that it was seen in quite elderly at 42 years of age.

Treatment is indicated for asymmetry, adjacent compression of tissues and ulceration with bleeding. Treatment depends on estimated percentage of breast volume excised (EPBVE). When it is below 10%, simple lumpectomy would suffice but EPBVE >10% requires in addition to lumpectomy some form of volume displacement or replacement oncoplastic breast surgery (OBS).^[14] Medial and inferior quadrants of breast are more cosmetically susceptible.^[14] Volume displacement techniques are preferred for large, ptotic breasts and can be supplemented with mastopexy or reduction mammoplasty.^[14,15] Various methods are described in literature regarding management of GFA ranging from simple excision to total mastectomy (Table 1).

A glimpse of the table shows a myriad of options to manage GFA. We describe our technique of modified LOBS. LOBS was first described by Singh et al.^[4] It is a level 1 OBS technique, was used for managing biopsy proven breast cancer or phyllodes tumor with a mean size of 6.7 cm. It involves biplanar mobilization of fibroglandular breast tissue with margin negative resection and tissue approximation. It had good short term cosmetic outcome. This technique was modified by Jena and Sinha to excise giant fibroadenoma in outer and central quadrants, with good cosmetic

Table 1. Literature review of management of GFA

Author, published year	Study type	Symptoms	Site	Age of patient/s (yrs)	Size of tumor	Treatment
Anavi et al, 2002 ^[13]	Case report	Lump		43	23 cm	Mastectomy
Achebe et al, 2014 ^[16]	Retrospective study, 27 patients	Lump with asymmetry	Unilateral (Left or right)	12-25	12-20 cm	Inverted T technique
Hille-Betz et al, 2015 ^[3]	Retrospective study, 13 patients	Lump with asymmetry		14-31	8.5-12 cm	Inframammary or periareolar excision without reconstruction
Jategaonkar et al, 2018 ^[17]	Case report	Huge lumps with pendulous breasts	Bilateral	17	63,51 cm	B/L simple mastectomy with delayed reconstruction
Narayansingh et al, 2017 ^[18]	Case series, 5 patients	Lump	Left, right	13-16	10-13 cm	Periareolar incision with Sawtooth approach
Hiller et al, 2018 ^[19]	Case report	Lump	Right	30	11.5 cm	Excision with inferolateral pedicle Wise pattern reduction
Khanal et al, 2019 ^[20]	Case report	Lump with asymmetry	Right	11,16	11,14 cm	Batwing oncoplasty
Cui et al, 2020 ^[21]	Retrospective study, 10 patients	Lumps	6 right, 4 left	12-32	6-16 cm	Modified round block technique
Kabuyaya. 2021 ^[22]	Case report	Breast lump with ulceration and bleeding	Right	40	28 cm	Total mastectomy with node sampling
Jena and Sinha, 2021 ^[23]	Case report, 2 patients	Lump	Left, right	25,28	10,15.5 cm	Modified lateral oncoplasty
Kitazawa et al, 2022 ^[24]	Case report	Lump	Left	14	8 cm	Inframammary incision with temporary tissue expander

outcome.^[23] In our case we also modified the original LOBS. While the incision in original procedure was placed along anterior axillary fold extending laterally downwards, we placed a peri-areolar skin reduction incision. The scarring in our technique was minimal compared to original LOBS. Instead of original biplanar mobilization, the superomedial and inferolateral glandular tissue was freed only anteriorly from the skin flap, and approximated minimizing the dead space. Compared to Jena and Sinha, we did not put the suction drain.^[23] Postoperative course was uneventful without seroma. Also, a thin rim of skin excision helped remove skin laxity. The bulk and symmetry of breast was well maintained at 1 and 5 years follow up with good patient satisfaction.

Another notable feature in our case was presence of focal flat epithelial atypia (FEA). We did not find other reports reporting FEA in giant fibroadenoma in PubMed database, although there are few studies reporting concomitant usual fibroadenoma. It is a relatively new diagnostic term with wide variation among pathologists in its diagnosis and so the implied risk associated with it. Architectural atypia is used to differentiate FEA from ADH or DCIS.^[25] In a study by Berry, among 39 patients with FEA and concomitant pathology only one was fibroadenoma. While in 27 cases with pure FEA, 3 had associated DCIS but none were amongst focal FEA group.^[26] So it appears that presence of focal FEA makes it less likely that patient harbors carcinoma. A meta-analysis showed 3% rate of invasive cancer in FEA. But it did not differentiate this rate between focal and prominent groups of CNB diagnosed FEA.^[6] Our FEA was present concomitant with fibroadenoma without DCIS or invasive cancer. This was assuring and the patient was kept on regular follow up. At 5 years, patient was doing good without any recurrence of new fibroadenoma or carcinoma.

Conclusion

Giant fibroadenoma with focal epithelial atypia is rare and seems less likely to be associated with malignancy. The tumors in outer half of breasts can be managed with simple modified LOBS technique without drain with good cosmetic outcome. Being a level 1 OBS technique, it can be easily performed by general surgeons without any specialized training.

Disclosures

Informed Consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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