

An example of lumpectomy for lower inner quadrant breast cancer with 1st level oncoplastic reconstruction by glandular splitting

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Abstract: Oncoplastic techniques extend the scope for breast conserving surgery by combining an extensive local excision with a simultaneous reconstruction of the defect to avoid local deformity. If less than 20% of the breast volume is excised a level I procedure is adequate and can be performed by breast surgeon without specific training in plastic surgery. For breast cancer is possible to fill the defect of the lower inner lumpectomy by splitting the upper inner quadrant. The Authors describe a novel technique in giant breast.

Key Words: Oncoplastic breast surgery; breast surgery; breast conserving surgery; oxidized regenerated cellulose polymer



Submitted Jun 29, 2013. Accepted for publication Jul 19, 2013.

doi: 10.3978/j.issn.2227-684X.2013.07.03

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Introduction

Oncoplastic breast surgery allows a more radical local tumour excision which potentially reduces margin involvement and hence local recurrence. Usually breast reshaping decreases the risk of a localized defect although there are zones that are at high risk of deformity and cosmetic failure (1). With the application of oncoplastic techniques, the surgery has become complex in terms of preoperative drawings, intra-operative set-up in order to get an aesthetically pleasing result (2).

Operative techniques

The authors describe the case of a woman of 63 years old suffering from a metabolic syndrome with a BMI >30 and breast cancer of lower inner quadrant identified with mammography. The ultrasound and fine needle aspiration cytology have confirmed the malignancy. Preoperative skin planning is based on the principle that an acceptable breast shape should be conserved by filling the defect of the lower inner quadrant after lumpectomy using the remaining gland body (*Figure 1*). After oncologic resection the advancement flap is prepared by detaching the whole gland body from

the pectoralis major muscle. The upper inner quadrant is cut horizontally in the middle between the skin and pectoral muscle and medially detached to mobilize the flap as necessary. After medial detachment the flap is still supplied by internal thoracic artery and pectoral branch of thoracoacromial artery. The pectoral part of the upper inner quadrant is pulled down and placed into the tumor cavity and attached with 3 or 4 stitches to the inframammary fold (*Figure 2A,B*). To improve the shape, volume and symmetry of the breast is also described the use of oxidized regenerated cellulose polymer into the space between the gland and the pectoral muscle.

Discussion

The application of oncoplastic techniques in breast conserving surgery combine the oncologic local excision with simultaneous reconstruction to avoid local deformity. If less than 20% of the breast volume is excised a level I procedure is adequate and can be performed by breast surgeon without specific training in plastic surgery. For excisions which exceed 20-50% of breast volume will require a level II procedure that are based upon mammoplasty techniques and require specific training (3).



Figure 1 Preoperative drawing in the upright position

The authors describe a novel application of the 1th level oncoplastic technique in a case of lower inner quadrant cancer in a woman with giant breasts. The lower inner quadrant reshaping is quick, safe and has a good cosmetic result in giant and ptotic breasts. This technique provides first the gland detachment from the pectoralis major muscle, then the upper inner quadrant gland is splitted parallel to the thoracic wall exactly in the middle. The inferior layer of the gland body can be placed into tumor bed as a flap that can be sutured to the inframammary fold with 3 or 4 absorbable stitches. The technique leads to a quick and acceptable filling of the defect and avoids nipple deviation even after a large lumpectomy like in this case (160 gr), so that the breast shape can be preserved and the original size is being only marginally reduced also after radiotherapy (*Figure 3A,B*). Usually the large resection may

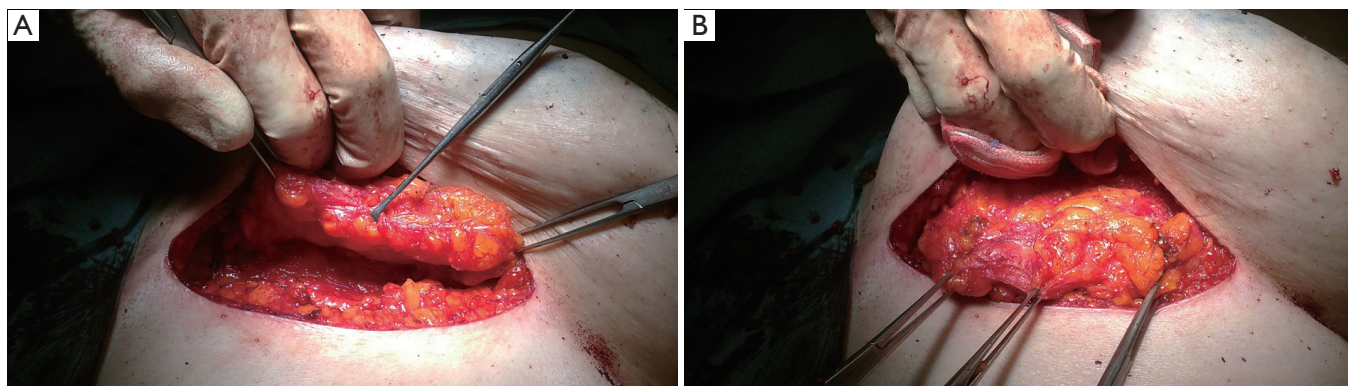


Figure 2 Mobilization of the pectoral part of the upper inner quadrant



Figure 3 Cosmetic result 18 months later surgery and radiotherapy

lead to hematoma and seroma formation which can result in unpredictable long-term cosmetic results. The excision cavity becomes prominent due to fibrosis and retraction of the surrounding tissue creating a noticeable defect. In oncoplastic breast surgery the oxidized regenerated cellulose by preventing the hematoma, can promote dermal fibroblasts proliferation and cell migration playing a role in adjustment of the shape, volume and symmetry of the breast and reducing skin retraction (1,4). In oncoplastic literature a similar method is described only by Rageth (5), while Takeda uses an advancement flap obtained from the lateral tissue adjacent to the breast (6). Apart Rageth and Takeda we did not find any reports of similar techniques in the literature.

Conclusions

Oncoplastic surgery extend the indications of breast conserving surgery allowing oncologic resections and, with the application of some surgical plastic techniques, can achieve the best possible aesthetic result. The creation of an advancement flap with the upper inner quadrant can have a role in reconstruction of the lower inner quadrant defect.

Cite this article as: Rassu PC, Serventi A, Giaminardi E, Bocchio M, Tava P. An example of lumpectomy for lower inner quadrant breast cancer with 1st level oncoplastic reconstruction by glandular splitting. *Gland Surg* 2013;2(3):170-172. doi: 10.3978/j.issn.2227-684X.2013.07.03

Acknowledgements

Disclosure: The authors declare no conflict of interest.

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