SURGICAL ONCOPLASTIC TECHNIQUE FOR GIANT FIBROADENOMA

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ABSTRACT*:*
FIBROADENOMAS ARE THE MOST COMMON TUMORS AFFECTING WOMEN DURING THEIR REPRODUCTIVE YEARS. FIBROADENOMAS WITH A DIAMETER LARGER THAN 5 CM OR A ESTIMATED WEIGHT GREATER THAN 500 GRAMS ARE CONSIDERED GIANT FIBROADENOMAS. THESE RAPIDLY GROWING LESIONS ARE RARE, WITH A REPORTED INCIDENCE OF ABOUT 4% OF ALL FIBROADENOMAS. DESPITE THEIR BENIGNITY, THEIR SYMPTOMS ARE MUCH MORE SEVERE, CAUSING PRONOUNCED ASYMMETRY OF THE BREASTS, DISTORTION OF THE OVERLYING SKIN AND STRETCHING OF THE NIPPLE, WHICH LEAD TO EMOTIONAL DISTRESS AND DISCOMFORT IN AFFECTED INDIVIDUALS.
ONCOPLASTIC SURGERY COMBINES BREAST NEOPLASIA MANAGEMENT PRINCIPLES WITH PLASTIC SURGERY TECHNIQUES IN ORDER TO OBTAIN BOTH AN ONCOLOGIC AND COSMETIC SUCCES. EVEN THOUGH USUALLY IT REFERS TO BREAST CANCER, ONCOPLASTIC SURGERY SKILLS CAN BE APPLIED FOR THE EXCISION OF LARGE BENIGN TUMORS, SUCH AS GIANT FIBROADENOMAS.
IN THIS ARTICLE, WE PRESENT A CASE OF A 18 YEARS OLD PATIENT ADMITTED IN GENERAL SURGERY DEPARTMENT OF COLȚEA HOSPITAL, DIAGNOSED WITH GIANT FIBROADENOMA AND MANAGED BY MAKING USE OF ONCOPLASTIC TECHNIQUES.

KEY WORDS: BREAST NEOPLASIA, CHRONIC PAIN, LYMPHADENECTOMY, MASTECTOMY.

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INTRODUCTION

Fibroadenomas are the most common tumors affecting women during their reproductive years. They are benign biphasic tumors, with epithelial and stromal components, that are stimulated by hormonal activity and undergo atrophic changes in menopause.[1,2]

Most are discovered during clinical breast examinations or by patient self-breast examination and, typically, present as a non-painful, firm, smooth, with a well-defined contour mass or, sometimes, multiple masses. When diagnosed in a young woman, the term juvenile fibroadenoma is more appropriate.

Fibroadenomas with a diameter larger than 5 cm or a estimated weight greater than 500 grams are considered giant fibroadenomas.[3,4] These rapidly growing lesions are rare, with a reported incidence of about 4% of all fibroadenomas, but their symptoms are much more severe, causing pronounced asymmetry of the breast, distortion of the overlying skin and stretching of the nipple.[2] Despite their benignity, these giant lesions cause significant emotional distress and discomfort in affected individuals.

The traditional management options available to women diagnosed with a common fibroadenoma include either periodic reassessment or tumor ablation using surgery or various minimal invasive techniques. Giant fiabroadenomas, on the other hand, pose a significant challenge and currently there is no consistent surgical approach for this pathology.[5]

Oncoplastic surgery combines breast neoplasia management principles with plastic surgery techniques in order to obtain both an oncologic and cosmetic succes. Even though usually it refers to breast cancer, oncoplastic surgery skills can be applied for the excision of large benign tumors, such as giant fibroadenomas.[6,7]

In this article, we present a case with a juvenile giant fibroadenoma managed by making use of oncoplastic techniques.

MAIN TEXT

MATHERIALS AND METHODS

We describe the case of a 18 years old patient, admitted in General Surgery Department of Colțea Hospital. She presented for a large mass on the right breast, which was noticed six month before and had a history of rapid development in the last 3 months. The patient didn't have a history of breast pathology or hormone therapy medication.

The tumor was painless, with no nipple discharge and no history of trauma. The patient did not complain of recent fever onset or significant weight loss.

Clinical examination revealed pronounced enlargement and asymmetry of the right breast caused by a tumor with benign features, approximately 7 cm in diameter, with regular shape, well circumscribed, firm consistency, nonadherent to the underlying structures, distorting the overlying skin, without accompanying axillary lymphadenopathy. (Fig. 1)

Figure 1

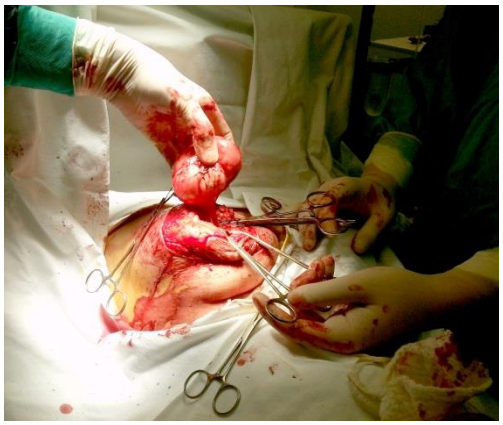

Figure 2

Blood tests and chest X-ray exam were within normal limits. Mammography was not performed because of its limited accuracy for young women with dense breast. Right breast ultrasound detected a solid mass with 66.8 mm length and 51 mm width, ovoid, well-circumscribed, smooth contour, without axillary node enlargement, classified as BIRADS 3.

A differential diagnosis of giant juvenile fibroadenoma, phyllodes tumor and stromal hyperplasia was considered for a patient of this age group. The definitive diagnosis was confirmed by resorting to core needle biopsy under ultrasound guidance and histopathlogical examination.

Surgical treatment was decided and performed under general anaesthesia. Considering the tumor location and the need to elevate the areola, the oncoplastic round block technique was decided. A ring of skin 25 mm in width was de-epithelialized in circular shape along the areolar margin. Subcutaneous tissue was then incised and the fibroadenoma was removed using sharp and blunt dissection.

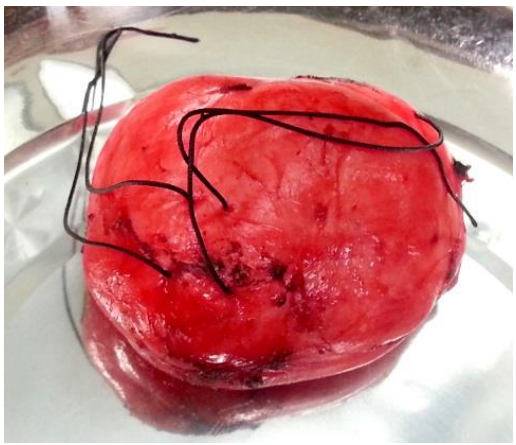

Figure 3

Figure 4

Dissection was facilitated by good exposure and the use of supportive sutures through the fibroadenoma, intended for better manoeuvrability.

A firm encapsulated mass was excised with maximal preservation of the normal breast parenchyma. (Fig. 3) After removal, the resulting cavity was obliterated using resorbable sutures and a drainage tube was placed. The skin defect was mended using inverting and circular intradermal resorbable sutures. (Fig. 4)

RESULTS

Post operatively the patient had a fast recovery with no complications. The drainage tube was removed the following morning. A compressive dressing was used until discharge on day thre postoperatively. The procedure achieved complete tumoral resection, along with breast tissue reshaping and mastopexy, by resorting to oncoplastic surgical techniques.

DISCUSSIONS

The causes that determine the emergence and rapid development of giant fibroadenoma are still unknown, and the disease is considered idiopathic. Analyses of the cellular components of fibroadenomas by means of polymerase chain reaction demonstrated that both the stromal and the epithelial cells are polyclonal, supporting the theory that fibroadenomas are hyperplastic lesions associated with aberration of the normal maturation of the breast.[2,8] The pattern of growth in a fibroadenoma is believed to be determined by the epithelial component, as stromal mitotic activity was found to be higher for those elements.[9]

Since the diagnosis of fibroadenomas based on physical examination is only 50% to 67% accurate, for solid lesions such as a fibroadenoma, a core needle biopsy is more appropriate, can yield more tissue to be examined, and is a way to avoid surgical biopsy.

Surgical treatment may lead to undesirable scarring or extensive ductal damage and many common cases of breast fibroadenomas do not have surgical indication, and for those who do have it, there are multiple ultra-minimal-invasive alternatives to surgery (radiofrequency, focused ultrasound, crioablation). Also, successful endoscopic breast tumor excision has been reported by some authors.[10] Despite this fibroadenomas can be bothersome for the patient, causing discomfort or emotional distress, and most surgeons will respect an informed patient's preference for surgical excision.

CONCLUSION

Benign breast tumors, especially when giant or multiple, pose a challenge in obtaining complete wide excision with minimal breast deformity and minimal residual scars, in addition to the high risk of recurrence.

Surgical treatment may lead to undesirable scarring or extensive ductal damage, with with severe consequences, especially for the young patient.

The use of an oncoplastic surgical technique, such as round block, as treatment for giant benign tumors can considerably reduce these unwanted effects.

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