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Oncoplastic surgery in breast conservation: a prospective evaluation of the patients, techniques, and oncologic outcomes



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KEYWORDS:

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Abstract

BACKGROUND: The oncologic efficacy of breast-conserving therapies has been established in recent decades. Oncoplastic breast surgery (OBS), as a leap forward in breast conservation, offers concomitant techniques of oncologic and plastic surgeries that grant better esthetic results. The outcomes of our oncoplastic surgeries from 2007 to 2012 are reported.

METHODS: A series of 258 cases with breast masses (18 benign and 240 carcinomas) were operated on by OBS techniques and prospectively followed. Neoadjuvant and adjuvant oncologic treatments were also delivered as indicated.

RESULTS: Free margins were obtained in 95% of cancer patients. During the 26 months of follow-up, local recurrence happened in 7 (2.9%) patients, of which 1 underwent oncologic therapies and 6 underwent completion mastectomy. Complications postponed adjuvant therapies in 3 (1.2%) patients. Postsurgically, metastases were diagnosed in 8 (3.3%) patients. Two patients (.8%) died of cancer.

CONCLUSIONS: Outcomes of OBS are oncologically acceptable with low frequencies of positive margins and recurrence, while cosmetic results are much improved by OBS.

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Mastectomy (MST) was once the only and safest but most extensive surgical option for patients undergoing breast cancer surgery. The advantage of MST was that it amputated the whole breast and with minimal residual breast tissue the risk for recurrence was minimum. What the patients do not practically favor about MST (then and now) is its vast

mutilation and very poor esthetic results. The early surgical answers to amend the esthetic failures of MST were simple modifications and segmental resections of the breast, which later evolved to breast-conserving surgery (BCS). BCS tries to preserve as much of healthy breast tissue as possible and performs lumpectomies with adequate margins rather than extensive tissue excisions. The oncologic safety of BCS has been established through multiple randomized trials. ^{1–9} BCS has been proved to have the same overall survival compared to MST but a slightly higher risk for local recurrence. ^{1,3,5,8,9} Today, BCS is the standard of practice for early-stage breast cancer. BCS does not amputate the breast and in those with

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small masses the excisions do not cause visible deformities, but while large proportionate breast volumes are excised, subsequent defects and deformities are inevitable, which again may not go along with patients' esthetic desires. 10

Oncoplastic breast surgery (OBS) is a new method of breast conservation. It offers concomitant techniques of oncologic and plastic surgeries that grant better esthetic outcomes. With OBS techniques, the cancer is completely excised with adequate margins, while local deformities are avoided by tissue displacement techniques for proportionately small tumors and by tissue replacement and breast reconstruction techniques for larger masses. OBS also cares about the symmetry of the breasts, as procedures on contralateral breast (either immediate or delayed) try to reconstruct or downsize the healthy breast so that the breasts look identically alike. From the application of primary OBS techniques in the early 1980s, we now have multiple OBS techniques for any tumor location within the breast (Fig. 1). 11-13

OBS techniques for breast conservation are new to Iran and are limited to some academic and private centers with specialized breast and plastic surgeons. This article is one of the preliminary papers that reports the evaluation of oncologic outcomes of OBS in Iran between 2007 and 2012 and included a large number of patients.

Patients and Methods

The rate of application of OBS techniques is growing in Iran. To evaluate the efficacy and oncologic outcomes of OBS, a prospective study was conducted in the surgery department of Tehran University of Medical Sciences between November 2007 and October 2012. A total of 258 women with breast masses enrolled in the study. Up to 93% of them were diagnosed to have breast carcinomas, while a small proportion (7%) had premalignant lesions or lesions without atypia.

Multidisciplinary team discussions, namely "tumor board," were organized, wherein the indication, safety, and feasibility of application of OBS techniques were individually established for each patient. The team comprised general, plastic, and breast surgeons, and at least 1 oncologist, 1 pathologist, and 1 radiotherapist. All the surgical procedures in the series were performed by a single breast surgeon (the senior author of the article).

The extent of tumor spread was assessed by computed tomography scans, bone scans, mammography, ultrasound, and magnetic resonance imaging. Tissue sampling by core biopsies was also used for primary pathologic evaluations. Noncarcinoma cases included in the series were those with large focal lesions in whom "core biopsies" had revealed benign pathologies (eg, fibrocystic changes) but discrepantly there were "suspicions for malignancy" in radiologic evaluations (BIRADS category 4B and higher), which necessitated complete resection of such tumors. Regarding the large size of these tumors, conventional resections would apparently leave major structural defects, so OBS techniques were used for the anticipated extensive tissue resections. The carcinoma cases, on the other hand, were majorly early-stage breast carcinomas, while the tumor

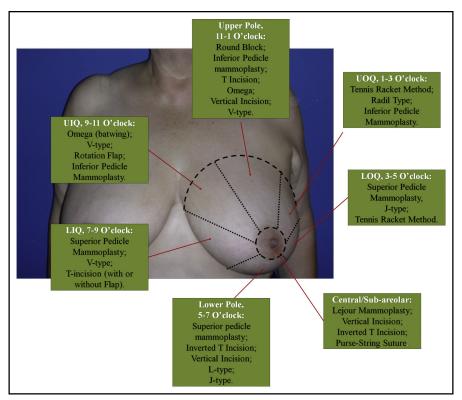


Figure 1 Oncoplastic techniques according to the tumor location. The clock positions are according to the left breast. 11-13

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