EVALUATION OF THE USE OF DIFFERENT TECHNIQUES OF MAMMOPLASTY IN THE MANAGEMENT OF EARLY BREAST CANCER

Thesis

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Gihan Adly Al Sayed Abd El Moteleb

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BCS..... Breast Concervative Surgery

DCIS..... Ductal Carcinoma In Situ

OPS..... Oncoplastic Breast Surgery

IMF..... Infra Mammary Fold

NAC..... Nipple Areola Complex.

BIRADS..... Breast Imaging Reporting And Data System

BWM..... Batwing Mammoplasty

SLNB..... Sentinel Lymph Node Biopsy

MRI ..... Magnetic Resonance Imaging

TDAP ..... Thoracodorsal Artery Perforator flap

FNAC ..... Fine Needle Aspiration Cytology

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INTRODUCTION

Breast cancer is the most frequently diagnosed non dermatological malignancy in women and ranks second only to lung in cancer-related deaths ***(American Cancer Society, 2011).***

While the incidence has increased over the past decade, the mortality rate of breast cancer has gradually declined; this improved survival may stem from earlier detection as well as improved therapies ***(Howlader et al., 2010).***

A multidisciplinary approach is now standard of care, involving a coordinated effort with the surgeon working in concert with the medical and radiation oncologist to achieve the best possible outcome for each individual. Improvements in both the quality and quantity of life for victims of breast cancer can be attributed to the advances made in each of these disciplines. As with all cancers, earlier stage disease is more readily manageable than after significant advancement. It is these early-stage cancers in which the most significant improvements in the operative management has occurred ***(Rostas et al., 2012).***

Surgical resection was the first effective treatment for breast cancer and remains the most important treatment modality for curative intent. Refinements in operative techniques along with the use of adjuvant radiotherapy and advanced chemotherapeutic agents have facilitated increasingly focused

breast cancer operations. Thus, surgical management of breast cancer has shifted from Extensive and highly morbid procedures, to the modern concept obtaining the best possible cosmetic result in tandem with the appropriate oncological resection ***(Rostas et al., 2012).***

Breast conservative surgery (BCS) has become the standard for early stage breast cancer and is increasingly used in ductal carcinoma in situ (DCIS) ***(Jakesz et al., 2003and Doridot et al., 2004).***

Its main objective is to provide a treatment as effective as mastectomy, but with the added benefit of a preserved breast. However, it is sometimes difficult to achieve good cosmetic results, especially with large, ill-defined or poorly situated tumors ***(Clough et al., 2003).***

A surgical dilemma in BCT arises, on the one hand the surgeon needs a wider excision to provide clear margins and better local control of disease, but on the other hand the surgeon wants to spare as much tissue as possible for defect closure and to make the resulting aesthetic outcome as favorable as possible ***(Hamdi et al., 2007 and Dillon et al., 2006).***

Oncoplastic surgery is a rather new concept; it combines breast conservative treatment with plastic surgery techniques for a better cosmetic outcome. It allows wider excision of the tumor and at the same time the preservation of symmetry by immediate

reconstruction. It has both oncological and psychological benefits. Four features define oncoplastic surgery: appropriate surgery to extirpate cancer, partial reconstruction to correct wide excision defects, immediate reconstruction with the full range of available techniques, and correction of asymmetry relative to the contralateral breast ***(Baildam, 2002 and Rew, 2003).***

Additionally, in some circumstances oncoplastic techniques may allow a more radical tumor excision, which potentially reduces margin involvement. The capacity to remove a wider margin may be significant in certain groups of patients such as those with ductal carcinoma in situ and larger tumors that would usually be treated by radical surgery ***(Asgeirsson et al., 2005).***

Several important basic points are crucial to obtain a pleasing outcome; the right technique to resect the cancer with immediate reconstruction using the appropriate technique, and the management of contralateral breast. All of these require careful planning with respect to the undermining and placement of the incisions ***(Munhoz et al., 2007).***

Despite this appropriate management, the esthetic outcome depends on various factors, including the size and location of the lesion and the size of the original breast ***(Rostas and Dyess, 2012).***

Additionally there is common agreement that the surgical deformities are best treated immediately following tumor resection. This is because it is more complicated to correct soft tissue deformities after radiotherapy ***(Clough et al., 2003).***

To date, there is no consensus concerning the best procedure for conservative breast surgery. The main advantages of the technique should include reproducibility and low interference with the oncologic treatment. Probably, these goals are not achievable by any single procedure and each technique has its advantages and limitations ***(Clough et al., 1999).***

A range of methods of parenchyma displacement techniques have been described, simple reshaping is performed by widely undermining nearby skin and the breast gland off the chest wall. The breast defect is then closed in full thickness ***(Slavin and Halperin, 2004).***

Although satisfactory results may be achieved with the above mentioned techniques, reduction mammoplasty may lead to better results in patients with macromastia ***(Munhoz et al., 1999).***

According to breast volume, presence of ptosis, tumor size and location, we can choose the appropriate reduction technique for each case ***(Munhoz et al., 2007).***

There has been no consensus regarding the best mammoplasty technique. Each presents particular advantage for their indication, tumor location limitations, vascular pedicle, additional skin and glandular resections due to compromised margins, and resultant scar ***(Munhoz et al., 1999).***

The basic requirement for safety in breast conservative surgery is the adequacy of resection and the ability to achieve negative margins. We need to verify whether modern oncoplastic techniques can fulfill this requirement of safety while immediate reconstruction of defects can improve esthetical outcomes as well ***(Newman et al., 2001).***

Concerns about the increased rate of complications after oncoplastic procedures are raised on the account of Glandular necrosis which is the most challenging complication. Aggressive undermining of both the skin envelope and gland from the pectoralis muscle can lead to glandular necrosis if the breast is fatty. Areas of fat necrosis can become infected and cause wound dehiscence resulting in postoperative treatment delay. Longer scars, increased procedure time, efforts and costs are also related. The need for a specialized plastic surgeon and training and finally the need to reconstruct the other breast are potential issues that need to be declared ***(Clough et al., 2003).***