بسم الله الرحمن الرحيم

" قالوا سبحانك لا علم لنا إلا ما علمتنا إنك أنت العليم الحكيم "

صدق الله العظيم

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Evaluation of the Results of Extended Latissimus Dorsi Myocutaneous Flap for Immediate Breast Reconstruction after Breast Conservative Cancer Surgery Versus Delayed Breast Reconstruction

Thesis submitted for Partial Fulfillment of the MD Degree in General surgery

By :

Belal Abdullah Almobarak Abd-Elazim Mohamed

M.B.BCH.,MSc.,

Under Supervision of :

Prof. Dr. Ahmed Tarek Atta
Professor of General and Plastic Surgery
Faculty of Medicine – Cairo University

Prof. Dr. Hesham Abo Esha
Professor of General Surgery
Faculty of Medicine – Cairo University

Dr. Mohamed Osama Adly
Consultant of Plastic Surgery
Ahmed Maher Teaching Hospital

Cairo University Faculty of Medicine 2009

ABSTRACT

In our study, we studied and evaluated the use of extended latissimus dorsi muscle flap as a method for immediate reconstruction after BCS.

Comparing the results with the use of other methods of delayed reconstruction, we concluded that he results are good and satisfactory especially in small and medium sized breasts. Also, there was no difficult complications, difficult to deal with. Also, it can be used as a substitute if there is any contraindication for the use of rectus abdominis muscle flap and if there is loss of it after reconstruction.

KEY WORDS:

- Breast conserving surgery.
- Extended latissimus dorsi muscle.

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Belal A. Almobarak

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List of abbreviations

abbreviations	Term
AJCC	**American joint committee of cancer**
BCS	**Breast conserving surgery**
BCT	**Breast conservative therapy**
DCIS	**Duct carcinoma in situ**
DIEP	**Deep inferior epigastric perforator flap**
ELDMF	**Extended latissimus dorsi myocutaneous flap**
ER-receptors	**Estrogen receptors**
FNAC	**Fine needle aspiration cytology**
IBR	**Immediate breast reconstruction**
IDC,NOS	**Invasive duct carcinoma, not otherwise specified**
LCIS	**Lobular carcinoma in situ**
LDF	**Latissimus dorsi flap**
LDMF	**Latissimus dorsi myocutaneous flap**
LHRH	**Luteinizing hormone releasing hormone**
LTTF	**Lateral transverse thigh flap**
MRM	**Modified radical mastectomy**
NAC	**Nipple-areola complex**
PMRT	**Postmastectomy radiotherapy**
RTH	**Radiotherapy**
SGAP	**Superior gluteal artery flap**
SIEA	**Superficial inferior epigastric artery flap**
TNM	**Tumor,node and metastasis staging of cancer breast**
TRAM flap	**Transverse rectus abdominis myocutaneous flap**

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INTRODUCTION AND AIM OF WORK

Introduction

In the early part of the last century, radical mastectomy was the standard treatment for operable cancer of the breast. This operation involves the removal of the entire breast with a generous portion of overlying skin, all the underlying pectoralis major and minor muscles, and the entire lymphatic and fibrofatty contents of the axilla.**(Benjamin and Rush,1984)**

Radical mastectomy is no longer the routine treatment for all patients with cancer breast, and most agree that there is a group of smaller cancers that can be treated by lesser procedures. **(Benjamin and Rush,1984)**

In 1948 **Patey and Dyson** introduced modified radical mastectomy which preserved the pectoralis major muscle and removed only segments of breast skin.

In 1980s, Breast conservation emerged **(Veronesi et al., 1981)** and **(Fisher et al., 1985)**, breast conservative surgery is a combination therapy that involves excision of the tumour with a safety margin (tumerectomy or quadrentectomy), removal or sampling of the axillary glands followed by radiotherapy to the residual breast and when appropriate to the axilla **(Berrino et al., 1987)**.

The benefit of breast conservative surgery and radiation is that it preserves the breast, including nipple areola complex and so maximizes the benefits of both cancer treatment and cosmetic outcomes while minimizing risks. **(Balch et al., 1993)**

In the 1980s, experience with immediate breast reconstruction, initially expanders and implants, was increased. Reconstruction with autogenous tissues avoids all the potential complications of implants in term of infection, dehiscence, exposure, distortion, deflation and contracture. **(Georgiade et al., 1985)**

The reconstructed breast mimics the normal breast better than any prothesis **(Spear et al., 1998)**. The use of muscle flaps for breast reconstruction does not delay the administration of adjuvant radiotherapy or chemotherapy **(Yule et al., 1996)**.

In 1974 **Brantigan** demonstrated the use of latissimus dorsi flap (LDF) in reconstruction after radical mastectomy. The work done in the late 1970s, presaged the contemporary use of latissimus dorsi flap for breast reconstruction. With the understanding of vascular connections to the skin provided by the underlying muscle and the idea of a myocutaneous flap proposed by **McCraw et al.,** in 1977 the use of latissimus dorsi was expanded to include the overlying skin island.

In 1977 **Schneider et al.,** reported successful transfer of the muscle and skin combination. They found the latissimus dorsi myocutaneous flap (LDMF) particularly useful for restoration of breast volume, replacement of the lost subclavicular contour once provided by the pectoralis major muscle, and restoration of deficient skin following mastectomy. **In 1978, Bostwich et al.,** introduced a different technique in which he provided adequate skin coverage and replacement of the breast mound contour, resulting in increased breast symmetry and improved cosmetic results.

Recently, even with the increased use of the transverse rectus abdominis myocutaneous (TRAM) flap, the latissimus dorsi flap often is reserved for patients in whom TRAM reconstruction is contraindicated. This subset of patients includes extremely thin patients in whom the infraumbilical soft tissues are limited and patients who previously have undergone abdominoplasty or other abdominal operations or who have abdominal scars that may entail compromise of the rectus abdominis pedicle. **(Kroll and Baldwin, 1992)**

Relative to TRAM reconstruction, the latissimus flap is more resistant to the effects of impaired wound healing posed by smoking and diabetes. Additionally, latissimus flap does not compromise the abdominal wall, which may be of issue in patients desiring future pregnancy. **(Kroll and Baldwin, 1992)**

Breast and plastic surgeons have developed skin sparing mastectomy and nipple sparing techniques to offer more optimal cosmetic results for patients undergoing total mastectomy. In selected patients, excellent cosmetic results can be achieved with a skin sparing mastectomy that preserved the nipple areola complex (NAC), followed by immediate reconstruction. **(Cense et al., 2001)**

Aim of Work

The aim of this work is to evaluate prospectively the results of the use of extended latissimus dorsi muscle and myocutaneous flaps for immediate breast reconstruction after breast conservative surgery in thirty (30) early cases. Indications, limitations, surgical techniques tips, postoperative easthetic grading, assessment and complications will be presented and discussed.

Comparative analysis of the results of cases in five years retrospective study of delayed breast reconstruction using different techniques done at El-Kasr Elainy hospital and Ahmed Maher teaching hospital will also be presented and discussed.

REVIEW OF LITERATURE

ANATOMY AND EMBRYOLOGY