



Round Block Technique Versus Reduction Mammoplasty in Treatment of Early Breast Cancer

Thesis

Submitted for Partial Fulfillment of the MD
Degree in General Surgery

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2018**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٣٢



ACKNOWLEDGEMENT

First of all, thanks to Allah whose magnificent help was the main factor in completing this work.

No words could express my deepest thanks and appreciation to Prof. Samy Ahmed AbdelRahman, Professor of General Surgery, Faculty of Medicine, Ain Shams University, for inspiring me with the idea of this work. His patience, precious advice and guidance enlightened my way throughout this work.

No words could express my deepest thanks and appreciation to Prof. Ayman Aly Reda, Professor of General Surgery, Faculty of Medicine, Ain Shams University, for inspiring me with the idea of this work. His patience, precious advice and guidance enlightened my way throughout this work.

I want also to express my deepest thanks and appreciation to Dr. Sherif Mourad Guirguis, Lecturer of General Surgery, Faculty of Medicine, Ain Shams University, for his patience, valuable advice and continuous help in completing this work.

I am also deeply indebted to Dr. Karim Fahmy Abd Elmoaty, Lecturer of General Surgery, Faculty of Medicine, Ain Shams University, for his kind help, guidance, useful advices, continuous encouragement and support all through my entire work.

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List of Abbreviations

^{18}F -FDG	: ^{18}F -Fluorodeoxyglucose	ADH
	: Atypical ductal hyperplasia	ALH
	: Atypical lobular hyperplasia	ASC
	: American Cancer Society	ASCS
	: Autogenic stem cell support	BCS
	: Breast-conservation surgery	BCT
	Breast-conserving therapy	
BI-RADS	: Breast Imaging Reporting and Data System	
BSGI	: Breast-specific gamma imaging	
CBE	: Clinical breast examination	
CC	: Craniocaudal	
CNB	: Core needle biopsy	
CT	: Computed tomography	
DCE	: Dynamic contrast enhanced	
DCIS	: Ductal carcinoma in situ	
DCIS	: Differentiate between ductal carcinoma in situ	
DITI	: Digital infrared thermal imaging	
DL	: Ductal lavage	
DWI	: Diffusion-Weighted Imaging	
ER	: Estrogen receptor	

List of Abbreviations

FNA	: Fine-needle aspiration	GEP
	: Gene expression profiling	GLUT
	Glucose transporter proteins	LCIS
	Lobular carcinoma in situ	LD
	Latissimus dorsi	
LHRH	: Leutenizing hormone releasing hormone	
MLO	: Mediolateral oblique	
MRBT	: Modified round block technique	
MRI	: Magnetic resonance imaging	
NAC	: Nipple areola complex	
NAF	: Nipple aspirate fluid	
PET	: Positron Emission Tomography	
PR	: Progesterone receptor	
RBT	: Round block technique	
TRAM	: Transverse rectus abdominis myocutaneous	
TRM	: Therapeutic reduction mammoplasty	
US	: Ultrasonography	
VAB	: Vacuum-assisted breast biopsy	

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Introduction

Early breast cancer can be defined as the presence of a mobile tumor within the breast with or without associated mobile enlarged lymph nodes, and represents the vast majority of patients who present now with breast cancer (**Haffty, et al., 2007**).

Breast-conservation surgery (BCS) is an important component of early breast cancer treatment, with a survival outcome comparable to that of radical procedures (**Veronesi, et al., 2002**).

In fact, the long-term survival of BCS with radiation is not statistically different when compared with mastectomy in patients with Stage 1 or 2 breast cancer (**Hamdi, et al., 2007**).

Among the main technical options, Therapeutic reduction mammoplasty (TRM) remains a useful procedure. Usually, the application of TRM involves resection of the tumor and remodeling the breast using an aesthetic breast reduction technique. As a consequence of rich breast tissue vascularization, the greater part of TRM has based their planning on preserving the pedicle of the nipple-areola complex (NAC) after tumor removal. Usually, the procedure is adequate for patients with moderate/larger breasts requiring excision of significant volumes of tissues and contralateral symmetrization.. With TRM, the BCS defect can be repaired and the preoperative appearance can be improved, resulting in more proportional breasts (**Munhoz, et al., 2006**).

In addition, the technique reduces the difficulty of providing radiation therapy to the remaining breast tissues with acceptably low complication rates (**Chang, et al., 2004**).

In terms of local control and oncological outcome, the added removal of a substantial volume of breast tissue could add a significant amount of safety in terms of surgical margins (**Kaur, et al., 2005**).

Defects are frequently reconstructed with TRM techniques when the patient presents with large volume breasts and there is a sufficient amount of breast tissue. The most favorable tumor location is in the lower breast pole where a conventional superior pedicle or superior-medial technique can be utilized (**Munhoz, et al., 2006**).

In patients with central tumors, an inferior pedicle is used to carry parenchyma and skin into the central defect (**Munhoz, et al., 2007**).

The round block technique (RBT) is a mastopexy technique. It is also known as doughnut mastopexy or periareolar mastopexy, which is another oncoplastic volume displacement technique used in BCS (**Clough, et al., 2010**).

The procedure begins by making two concentric periareolar incisions, resulting in a periareolar scar only. The nipple-areola complex (NAC) can be moved using this technique, depending on the distance of the outer incision from the new areola incision. In the

original RBT, the dermis is cut only on the side where the tumor is located because the NAC is supplied by dermal vessels from all sides. Therefore, this technique is difficult to perform in patients with tumors located in peripheral areas of the breast (**Kronowits, et al., 2007**).

However, **Zaha et al.** reported the use of a modified round block technique (MRBT) in which the dermis is cut on all sides, to remove tumors located in peripheral areas of the breast. In cases in which the breast excision area does not include the area under the NAC, an excellent view can be secured because the dermal flap can be made by incising around the entire outer circle. Because the view is very good, not only partial mastectomy, but also breast reshaping, can be performed easily using MRBT. **Zaha, et al., 2012** performed the original RBT in cases requiring resection of the breast tissue under the NAC and the MRBT in peripheral cases that did not require such a resection.