A Comparative Study between Round Block Technique and Standard Wide Local Excision in Breast Cancer Patients

Thesis

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List of Abbreviations

Abb.	Full term
BCS	*Breast conserving surgeries*
BIRADS	*Breast Imaging Reporting and Data System*
BRCA-1	*Breast cancer antigen 1*
BRCA-2	*Breast cancer antigen 2*
CIS	*Carcinoma in situ*
DCIS	*Ductal carcinoma in situ*
DM	*Diabetes Mellitus*
EGFR	*Epidermal growth factor receptor*
ER	*Estrogen receptor*
HER2	*Human epidermal growth factor receptor 2*
HTN	*Hypertension*
IDC	*Invasive ductal carcinoma*
IHD	*Ischemic heart disease*
ILC	*Invasive lobular carcinoma*
INF	*Infra-mammary fold*
LCIS	*Lobular carcinoma in situ*
NPI	*Notingham prognostic index*
OPS	*Oncoplastic surgeries*
PGR	*Progesterone receptors*
RBT	*Round block technique*
SD	*Standard deviation*
SWLE	*Standard wide local excision*
WHO	*World Health organization*

ABSTRACT

Background: The goal of optimizing the cosmetic and oncologic outcomes of BCS has been addressed in recent years by the emergence of the field of oncoplastic surgery, that originally defined as an assortment of volume replacement techniques performed by plastic surgeons to replace all or part of the resected breast volume with myocutaneous tissue flaps. The definition of oncoplastic surgery has more recently been expanded to include a wide range of volume displacement or volume redistribution procedures performed by breast surgeons and general surgeons to optimize breast shape and breast volume following breast cancer surgery.

Aim of the Work: To assess the round block technique as regard oncological safety, surgical outcomes and patients' satisfaction comparing results with standard wide local excision.

Patients and Methods: This is a prospective randomized study to assess the round block technique as an oncological procedure for management of early breast cancer near to nipple-areola complex as regard oncological safety, surgical outcomes and patients' satisfaction comparing results with standard wide local excision. Twenty breast cancer patients are subdivided into group (A) 10 females which underwent round block technique and group (B) 10 femaleswhich underwent standard wide local excision. Patient and tumor criteria including age, co morbidities, tumor size and distance between tumor and nipple-areola complex were considered to be non-significant between 2 groups so the only difference is the surgical technique.

Results: The round block technique and SWLE have the same results regarding operative time, intra-operative blood loss and post operative complications with the advantage to RBT because of its better cosmetic outcomes and lower re-excision rates. So, the round block technique is superior to SWLE in selected cases.

Conclusion: The round block technique has comparable operative parameters to SWLE with no evidence of increased surgical complications. With a lower re-excision rates and better cosmoses were observed in the round block patients as it is scarless operation without nipple and areola shift suggesting that the round block technique is superior to SWLE in selected cases.

Keywords: *Breast Cancer - Standard Wide Local Excision - Round Block Technique*

INTRODUCTION

Breast is an important part of the female body due to its anatomical, physiological and aesthetic role. A proportionately developed breast is an important feminine feature and a sign for fertility and sexuality. It plays a great role in female's self-confidence especially when their role in society has expanded immensely ***(Urban et al., 2013).***

Breast cancer is the most common cancer in women all over the world representing 18% of all women reported cases of cancer. It represents the leading cause of women mortality as representing 23% of all women cancer deaths ***(Akram et al., 2017).***

According to national cancer institute, Breast is the most common site of cancer in women in Egypt as it accounts for about 38.8% of total malignancies among Egyptian females; it is an important cause of mortality among women ***(Ibrahim et al., 2014).***

The diagnosis of breast cancer is based on history taking, both primary tumor and regional lymph node clinical examination, imaging investigations and pathological confirmation of the diagnosis. Staging of breast cancer is assessed according to TNM system that depends on the case of primary tumor, regional lymph nodes and distant metastasis ***(Senkus et al., 2015).***

Following the diagnosis of breast cancer, the patient finds herself in a new and unfamiliar landscape. This creates different levels of stress that vary from patient to another ***(Senkus et al., 2015).***

This stress is not only because of facing mortality but also surgical treatment of breast cancer may significantly and often permanently alter her perception of her physical, emotional, and sexual wholeness ***(Holmes et al., 2012).***

Halsted radical mastectomy was established for the first time in 1880s as a surgical management of breast cancer by removing breast enbloc, pectoralis muscles and axillary lymph nodes with good deal of skin. It was a disfiguring surgery with a lot of morbidities and complications ***(Plesca et al., 2016).***

In 1972 Madden modified radical mastectomy was done by conserving both pectoral muscles along with radiotherapy achieving similar oncologic results of radical mastectomy but less morbidities.1970s in coincidence of more wide spread of mammography use that permitted the diagnosis of breast cancer at earlier stages, that allowed Verones to remove only the tumor with free margins plus axillary dissection along with radiotherapy achieving same survival rates as more aggressive surgeries ***(Plesca et al., 2016).***

However, breast conserving techniques remained as a partial mutilation, where asymmetries and deformities were not considered relevant as oncological outcomes were more important than psychological and aesthetic damage ***(Rodriguez et al., 2018)***.

The goal of optimizing the cosmetic and oncologic outcomes of breast conserving surgeries has been addressed in recent years by the emergence of the field of oncoplastic surgeries. Originally oncoplastic surgeries are defined as an assortment of volume replacement techniques performed by plastic surgeons to replace partially or totally resected breast ***(Lim et al., 2017)***.

But now it includes the use of plastic techniques to achieve resection of the tumor with safety margins maintaining good cosmetic outcomes and symmetrizing surgeries for the contralateral breast if needed, the technique used depends on several factors such as tumor location, size, tumor to breast ratio and patients' desires ***(Piper et al., 2015)***.

Round block technique, also known as Benelli or Doughnut mastopexy has been reported to be a useful oncoplastic technique well suited for women with relatively smaller breast size and minimal ptosis who may not require contralateral breast surgery for symmetrisation. Being a slightly less complicated procedure compared to other oncoplastic techniques, round block may have fewer of the possible complications associated with oncoplastic surgery ***(Lai et al., 2016)***.

Aim of the Work

The aim of this work was to assess the round block technique as regard oncological safety, surgical outcomes and patients' satisfaction comparing results with standard wide local excision.