بسم الله الرحمن الرحيم

∞∞∞

تم رفع هذه الرسالة بواسطة / هناء محمد علي

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات: ....

Evaluation of round block technique in different juxta-areolar malignant lesions in early breast cancer

Thesis

Submitted For Partial Fulfillment Of Master Degree in General Surgery

By

Mina Aref Abd Elmalak Roman

*M.B.B.Ch(Faculty of Medicine-Ainshams University)*Under supervision of

Prof.Dr. Ashraf Abd El Moghny

Professor of General Surgery Faculty of Medicine-Ainshams University

Dr. Karim Fahmy Abd Elmoaty

Assistant Professor of General Surgery Faculty of Medicine-Ainshams University

Dr. Abdalla Hamed Ibrahem

Assistant Professor of General Surgery Faculty of Medicine-Ainshams University

Faculty of Medicine-Ainshams University 2022

INTRODUCTION

Breast is an important part of the female body due to its anatomical, physiological and aesthetic role. It has always been a symbol of beauty and femininity. These roles evoke the idea of the importance and the affection of this delicate organ has in the minds of women ***(Urban et al., 2014).***

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 22 % of all women cancer deaths ***(Akram et al., 2017).***

According to the national cancer institute, Breast is the most common site of cancer in women in Egypt as it accounts for about 39.8 % of total malignancies among Egyptian females, it is an important cause of mortality among women ***.(Mustafa and Fakhr,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. Staging of breast cancer is assessed according to TNM that depends on the case of primary tumor, regional lymph nodes and distant metastasis ***(Senkus et al., 2015).***

Surgical management of malignant diseases represents an exemplary model of multidisciplinary management. The combined modality approach to the treatment of breast cancer patients that includes primary surgical treatment, radiation therapy, and chemotherapy needs careful integration of these modalities with the new methods of reconstructive breast cancer surgery ***(Urban and Rietjens, 2014).***

The history of breast surgery has evolved over the past several decades, since Halsted's radical mastectomy was first presented at 1882 as the best radical solution for those with breast cancer ***(*Bramhall *et al., 2017).***

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. In 1970s in coincidence of more wide spread of mammography use that permitted the diagnosis of breast cancer at earlier stages that allowed surgeons 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).***

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. ***(Lim et al., 2017)***.

Oncoplastic breast surgery (OBS), which combines the concepts of oncologic and plastic surgery, is becoming a norm-of-practice treatment of early breast cancer offering a balance between good cosmetic outcome and limited risk of locoregional recurrence by enabling proper resection margins.**(Mustafa and Fakhr,2014).**

There are two fundamentally different approaches for breast defect management in OBS. volume-displacement procedures, which combine resection with a variety of different breast adjacent tissue rearrangements and mammoplasty techniques, reduction and reshaping techniques (round block technique, Grisotti flap, etc.) and volume-replacement procedures, which combine resection with immediate reconstruction by using locoregional flaps.**(Clough et al., 2012).**

In all types of mamoplasty, The main goal is to limit the scar.The scar in the submammary fold is visible, particularly when one is lying down.The ideal result is confining the scar to the periareolar area. **(Rodriguez et al.,2018).**

Round block technique (or Donut Mastopexy Resection) also known as Benelli mastopexy, was devised by Louis Benelli in 1990 which consists of the excision of a

circumareolar rim of skin around the NAC, wider at the tumor location, with direct closure. It was used for smaller lesions, possibly within the areolar/juxta-areolar zones, which are at least 25 mm deep to the NAC, in almost all breast sizes. This technique, although initially used for lesions in the upper half of the breast, enabled the excision of a wide subareolar resection margin for all juxta-areolar lesions.**(Farouk et al.,2015).**

AIM OF THE WORK

To evaluate round block technique in different juxta areolar malignant lesions up to 50 mm from areola in early breast cancer regarding the oncologic,surgical and cosmetic outcome & post-operative complications.

Chapter 1

ANATOMY OF THE BREAST

Development of the Breast:

The breast or mammary gland is a modified type of apocrine sweat gland which begins to develop at approximately the fifth week of fetal development. The human breast consists of the parenchyma and stroma, originating from ectodermal and mesodermal elements, respectively ***(Javed et al., 2018).***

Breast parenchyma develops as an invagination of chest wall ectoderm, which forms a series of branching ducts and acini of the mammary glands, but the supporting stromal tissue is derived from the mesenchyme ***(Javed et al., 2018).***

Around day 35 of gestation, proliferation of paired areas of epithelial cells in the epidermis occurs. These discrete areas of proliferation extend in a line between the fetal axilla and inguinal region and form two ridges called the mammary crests or milk lines ***(Sabel, 2019).***

Most of the mammary crest atrophies except for paired solid epithelial masses in the pectoral region at the fourth or fifth intercostal space, which form the primary mammary buds. ***(Sabel, 2019).***

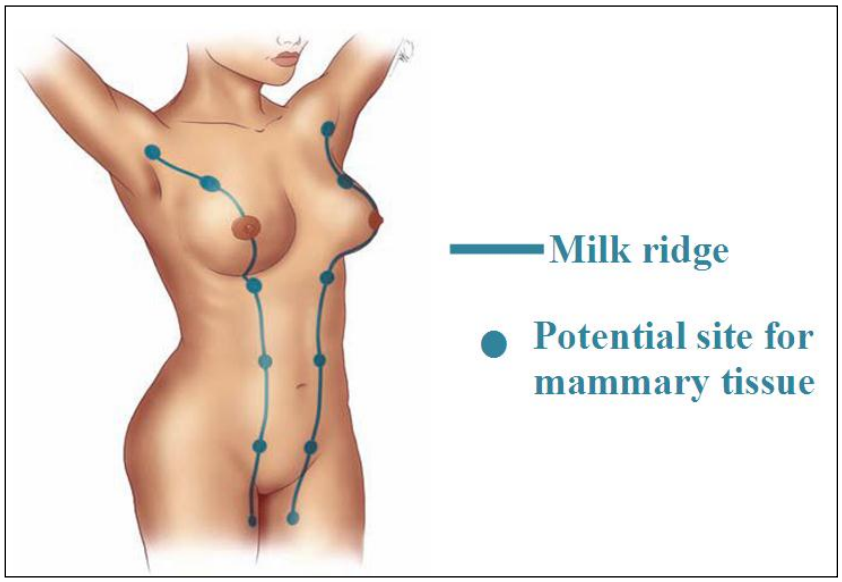

Figure (1): The mammary milk line ***(Moore et al., 2014).***

The nipple is created with smooth muscle fibers aligned in a circular and longitudinal fashion. The surrounding areola is formed by the ectoderm during the fifth month of gestation. At birth, males and females have identical breasts, formed by the major lactiferous ducts. Shortly after birth, the nipple begins to protrude from the areola, encompassing 10–15 terminal duct outlets ***(Lemaine et al., 2013).***

Extent and location:

The adult female breast is located within the superficial fascia of the anterior chest wall. The base of the breast extends from the 2nd rib superiorly to the 6th or 7th rib inferiorly and from the sternal border to the mid-axillary line. Two-thirds of the breast lies anterior to pectoralis major muscle; the

remainder lies anterior to serratus anterior muscle. A small part may lie over the external oblique muscle and the rectus sheath ***(Hunt et al., 2015).***

In about 95 % of women, there is a prolongation of the upper lateral quadrant toward the axilla. This tail (of Spence) of breast tissue enters a hiatus (of Langer) in the deep fascia of the medial axillary wall. This is the only breast tissue found normally beneath the deep fascia ***(Skandalakis, 2014).***

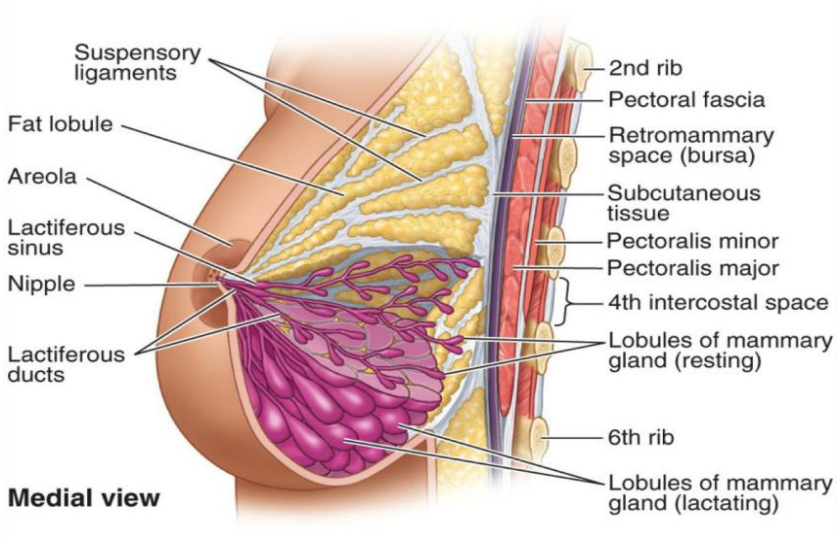

Figure (2): Sagital section of female breast showing the extension of the breast between 2nd and 6th ribs ***(Moore et al., 2014).***

Gross anatomy of the breast:

The breast is composed of skin, adipose tissue, and fibroglandular breast tissue. The breast skin is usually thin and contains hair follicles, sebaceous glands as well as eccrine sweat glands. The subcutaneous tissue lies immediately under

the skin. Beneath this layer lies the superficial fascia, within which is located the fibroglandular breast tissue, or breast parenchyma ***(Lemaine et al., 2013).***

The fibroglandular tissue is composed of 15–20 lobes of glandular tissue embedded in fat, each divided into 20–40 lobules, in turn consisting of 10–100 alveoli. Each breast lobule contains minor interlobular ducts, which drain into major lactiferous ducts. Each lobe drains by its lactiferous duct onto the nipple ***(Lemaine et al., 2013).***

The suspensory ligaments of Cooper form a network of strong connective tissue fibers passing between the lobes of parenchyma and connecting the dermis of the skin with the deep layer of the superficial fascia.With malignant invasion, portions of the ligaments of Cooper may contract, producing a characteristic fixation and retraction or dimpling of the skin. This must not be confused with the retraction called peaud'orange secondary to lymphatic obstruction ***(Skandalakis, 2014).***

Nipple-areola complex (NAC):

The nipple-areola complex is a specialized region of the mammary gland. It is a major anatomic landmark of the breast, serves to drain and express breast milk during lactation, and contains specialized cells for this function ***(An et al., 2020).***

The areola has a slightly raised disc shape and a varying size, on average 3 to 6 cm, normally situated around the forth

rib level. It has a rosy hue, during puberty, the pigment becomes darker, and becomes irreversibly pigmented (chestnut brown) from the second month of gestation ***(Zucca-Matthes et al., 2016).***

It has numerous hair follicles, apocrine sweat glands and sebaceous glands as well as large intermediate-stage sebaceous glands that are embryologically transitional between sweat glands and mammary glands and are capable of secreting milk ***(Zucca-Matthes et al., 2016).***

These glands make projections on its surface, forming tubercles of morgani, or areolar glands, which during pregnancy become enlarged giving rise to tubercles of Montgomery. The glands help to lubricate the nipple-areolar surface for keeping the nipple-areolar complex supple and well moisturized to ease breast feeding ***(Zucca-Matthes et al., 2016).***

In the center of the areola emerges a papillar cylindrical formation varying in size, averaging 10 to 12 mm wide by 9 to 10 mm in height. Its skin is similar to the areola, but has no sebaceous glands. It has 10 to 20 corresponding pores as the output of the milk ducts ***(Zucca-Matthes et al., 2016).***

The NAC has no subcutaneous tissue, so, the skin of the nipple rests on a thin layer of smooth muscle, areolar muscle fibers which are distributed in two directions: radial and circular. The areolar muscle is continued in the papilla with