

AXILLARY ULTRA SOUND AS A PREDICTOR TO AXILLARY DISSECTION IN BREAST CANCER

Thesis

Submitted for Partial Fulfillment of M.D. Degree
In General Surgery

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الموجات الصوتية علي الإبط كمؤشر لإستئصال الغدد الليمفاوية تحت الإبط في سرطان الثدي

رسالة مقدمة توطئه للحصول علي درجة الدكتوراه في
الجراحة العامة

من الطبيب

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ACKNOWLEDGEMENT

Praise be to **Allah** who has guided us and making it possible to me to carry out this work.

I'm so grateful and extremely indebted to
PROF. Dr. FATEEN ABD EL MONEM ANNOUS
For his valuable supervision, continuous support, encouragement and generous advice. My thanks for his great effort in this work.

I would like to express my deepest gratitude and thanks to
PROF. Dr. ABD EL RAOUF SHALASH
Who give me his fruitful experience , supplied me with the topics of this study , great co-operation and valuable direction .

I wish to express my sincere gratitude and appreciation to
PROF. DR. MAMDOUH GHONEIM
For his kind supervision , great co-operation and continuous support which help me a lot to complete this work.

Lastly, I would like to express my great thanks to
MY PARENTS , MY DEAR WIFE AND MY SENIOR STAFF
in Surgical Oncology Department in **Maadi Armed Forces Hospital**
Who made it possible for me to begin and complete this work.

ABSTRACT

Breast cancer is the most common cancer among women in Egypt, representing 18.9% of total cancer cases. Preoperative evaluation of axillary lymph nodes is important to avoid the complications of its dissection, either using careful preoperative axillary ultrasound or other techniques like sentinel lymph nodes. Our study using preoperative axillary ultrasound examination on **thirty** patients found that ultrasound is not a predictor to axillary dissection in case of breast cancer .

KEY WORDS

- Breast cancer.
- Axillary lymph nodes.
- Axillary ultrasound.

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INTRODUCTION

Breast cancer is the most common malignancy causing death among women worldwide . Incidence rates are higher in more developed countries (more than 180,000 women are diagnosed with breast cancer each year in the USA) , whereas rates in developing countries and Japan are low .So, if current breast cancer remain constant a women born today has a one in ten chance of developing breast cancer.

(Armstrong , et al .2000)

Surgical treatment of breast cancer should include axillary lymphadenectomy either doing modified radical mastectomy or simple mastectomy with axillary clearance .

(Cady . 1998)

The role of axillary lymphadenectomy in breast cancer is prognostic and useful in staging , for aid in determining the dosage, type of chemotherapy or axillary radiation portals based on the number of nodal metastases and for the regional control .

(McGuckin , et al. 1996)

Axillary metastases with primary invasive breast cancer is about 30-35%.

(Whitten , et al . 1997)

It was found that ; half of patients with total axillary dissection have a negative lymph node and they may developed a major complications in the form of edema of the arm and breast , shoulder dysfunction , may

develop thrombosis of axillary vein and also injury to the motor nerve of the axilla.

(Cady.1998)

Several noninvasive techniques can be used as a predictor for the presence of positive axillary lymph node in breast cancer such as sentinel lymph node , MRI and ultra sound .

(Fisher.1999)

Ultrasound is an important imaging technique for breast and axillary examination . The major indications of breast ultrasound are : the differentiation between cystic and solid mass , the exploration of palpable not clearly visible on mammogram and examination of axilla and sub - mammary areas where the lesion cannot be radio graphed .

(Staren , et al .1998)

ANATOMY OF THE

BREAST

(I) Development

The epithelial/mesenchymal interactions that will give rise to the glandular tissue of the breast, in both sexes, can first be seen at about the fifth or sixth week, when two ventral bands of thickened ectoderm, the mammary ridges or milk lines, extend from the axilla to the inguinal region. Usually, invagination of the thoracic mammary bud occurs by day 49, and the remaining mammary line involutes.

(Revis et al , 2006)

The thoracic ectodermal ingrowths branch into 15—20 solid buds of ectoderm which will become the lactiferous ducts and their associated lobes of alveoli in the fully formed gland. They are surrounded by somatopleuric mesenchyme which forms the connective tissue, fat and vasculature which is invaded by the mammary nerves. Continued cell proliferation, elongation and further branching produces the alveoli and defines the duct system.

(Revis et al , 2006)

Nipple formation begins at day 56, primitive ducts (mammary sprouts) develop at 84 days and canalization occurs at about the 150th day. During the last 2 months of gestation the ducts become canalized; the epidermis at the point of original development of the gland forms a small mammary pit,