The Role of Ultrasound and Ultrasound-Guided Fine Needle Aspiration Biopsy in the Assessment of the Mastectomy Site

ESSAY

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Dedication

To my family,
my friends, with love,
for their love.
To my MUM and DAD,
for your never-ending
support.

Marwa

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Abstract

In Egypt, breast cancer is the most common cancer among women, the large number of breast cancer operations performed each year underscore the important role of follow-up. Early detection of recurrent lesions ranks equal in importance to primary detection. The ultimate goal is to distinguish between benign and malignant changes to be able to detect local recurrence early by combining the routine clinical follow up with routine Ultrasound imaging of the mastectomy site.

(Key words: Mastectomy site- benign changes - locoregional recurrence- - ultrasound)

Introduction & Aim of Work

Introduction

Imaging modalities have not been widely used for examining mastectomy sites, because recurrent tumors that involve the chest wall or skin are frequently detected at clinical examination. However, because of the thick subcutaneous tissue, it is not always easy to differentiate between benign and malignant lesions on the basis of clinical examination alone **(Kim and Park 2004)**.

According to earlier reports neither mammography nor ultrasonography has been found to be of importance after mastectomy **(Balu-Maestro and Bruneton 1991)(Mendelson 1992)**. However, in 1993, Rissanen et al. reported that the sensitivity of ultrasonography for detecting local recurrence was superior to that of palpation and mammography.

Evaluation of a mastectomy site is effective with Ultrasonography (US) because abnormalities are usually small and close to the skin surface. Ultrasonography does not involve the use of ionizing radiation and has a multiplanar scanning capability. The technique is readily available and inexpensive, and it allows real time monitoring of needle tip placement during biopsy of a lesion **(Kim and Park 2004)**.

The postoperative appearance of the chest wall varies according to the mastectomy method. The axilla is changed in appearance after lymph node dissection, but remains the same in patients who have undergone simple mastectomy **(Kim and Park 2004)**.

US can accurately depict benign and malignant conditions in the mastectomy site, including fluid collection, fibrosis, local recurrent tumor, and metastatic lymph-adenopathy, and can enable accurate diagnosis based on findings at fine needle aspiration biopsy **(Kim and Park 2004)**.

In 1997, Rissanen et al. reported that fine needle aspiration biopsy (FNAB) cytology was found to be accurate in confirming and ruling out recurrences of breast carcinoma in patients treated with mastectomy. The method allows follow-up of cytologically malignant lesions, provided that the results are closely correlated with Ultrasonography and clinical findings.

Follow-up US in breast cancer patients after mastectomy have been very useful for detecting abnormalities at the mastectomy site. US have been reported to define the extent of recurrent breast carcinoma more clearly than physical examination. In addition, an accurate diagnosis may be made with US-guided fine needle aspiration biopsy **(Kim and Park 2004)**.

Aim of work:

The aim of this study is to demonstrate the usefulness of Ultrasound and Ultrasound-guided fine needle aspiration biopsy in the evaluation of normal and abnormal benign and malignant findings at the mastectomy site

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ABBREVIATIONS

CSF	Cerebrospinal fluid.
DCIS	Ductal carcinoma in situ.
FDGPET	Position emission tomography with fludeoxyglucose.
FNA	Fine needle aspiration.
FNAB	Fine needle aspiration biopsy.
IDC	Invasive duct carcinoma.
ILC	Infiltrating lobular carcinoma.
LABC	Locally advanced breast cancer.
LCIS	Lobular carcinoma in situ.
NOS	Not otherwise specified.
SSIs	Surgical site infections
TRAM	Transverse rectus abdominis musculocutaneous.
US	Ultrasound.
WHO	World health organization

Review of Literature