Paget's Disease of the Breast and Our Clinical Experience at Ain Shams University Hospitals

Thesis

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ABSTRACT

Background: Worldwide, breast cancer comprises 10.4% of all cancer incidences among women, making it the second most common type of non-skin cancer (after lung cancer) and the fifth most common cause of cancer death. In 2004, breast cancer caused 519,000 deaths worldwide (7% of cancer deaths; almost 1% of all deaths). Breast cancer is about 100 times more common in women than in men, although males tend to have poorer outcomes due to delays in diagnosis.

Aim of the Work: To clarify clinical, pathological features and outcomes of the treatment modalities for Paget's disease of the breast at Ain Shams University Hospitals.

Materials and Methods: Our study was held as a retrospective cohort study to clarify clinical, pathological features and outcomes of the treatment modalities for Paget's disease of the breast at Ain Shams University Hospitals.

Results: At Ain Shams university hospitals patients having pagetoid cells by biopsy and no mass radiologically will undergo simple mastectomy and if pathology proved any malignancy in breast tissue axillary clearance will be done and may be followed by radiotherapy.

Conclusion: Patients having pagetoid cells by biopsy and a mass radiologically which is invasive or insitu with microinvasion will undergo modified radical mastectomy and may be followed by radiotherapy. But if pagetoid cells and mass radiologically which is in situ simple mastectomy will be done.

Keywords: *Breast - Paget's Disease - Cancer*

List of Abbreviations

Abb.	Full term
ALND	*Axillary Lymph Node Dissection*
DCIS	*Ductal Carcinoma in Situ*
ER	*Estrogen Receptor*
H&E	*Hematoxylin and Eosin*
IDC	*Infiltrating Ductal Carcinoma*
ILC	*Infiltrating Lobular Carcinoma*
LCIS	*Lobular Carcinoma in Situ*
MPD	*Mammary Paget's disease*
MR	*Magnetic Resonance*
NCI	*National cancer institute*
NOS	*Not otherwise specified*
PR	*Progesterone receptor*
SNLD	*Sentinel Lymph Node Dissection*

INTRODUCTION

Worldwide, breast cancer comprises 10.4% of all cancer incidences among women, making it the second most common type of non-skin cancer (after lung cancer) and the fifth most common cause of cancer death. In 2004, breast cancer caused 519,000 deaths worldwide (7% of cancer deaths; almost 1% of all deaths). Breast cancer is about 100 times more common in women than in men, although males tend to have poorer outcomes due to delays in diagnosis ***(American Cancer Society, 2017).***

Cancer cells are very similar to cells of the organism from which they originated and have similar (but not identical) DNA and RNA. This is the reason why they are not very often detected by the immune system, in particular, if it is weakened ***(American Cancer Society, 2017).***

Paget's disease of the breast, a disorder of the nipple–areola complex, first described by Sir James Paget in 1874 ***(Alvero, 2017).***

It is an uncommon disease, accounting for 1–4.3% of all the breast carcinomas ***(Alvero, 2017).***

It is often associated with underlying ductal carcinoma *in situ* and/or invasive ductal cancer ***(Alvero, 2017).***

Paget's disease is much more frequent in women because of the predominance of breast cancer in females. It occurs most commonly in post-menapousal women, often during the sixth decade of life (mean age 57 years), but it has been observed in adolescents and in elderly patients also ***(Mkhinini et al., 2016).***

Therefore, Paget disease of the nipple is nearly always a sign of underlying breast malignancy. Underlying cancer is common even in women with a benign-appearing mammogram and no palpable mass. Patients with a palpable mass or suspicious mammographic findings have a high likelihood of invasive cancer, and these factors were significantly associated with a worse outcome ***(Mkhinini et al., 2016).***

Incidence of breast cancer different types in Egypt was that Infiltrating duct carcinoma was the most predominant histological type constituting 76.4% of cases, followed by mixed infiltrating duct and lobular carcinoma (5.7%), lobular carcinoma (2.9%) and carcinoma NOS (2.3%). Proportion of 1.7% was observed for mucinousadenocarcinoma, comedo-carcinoma, medullary-carcinoma and mixed infiltrating duct carcinoma. Paget's disease represented 1.1 % of all pathological diagnoses ***(Ibrahim et al., 2008).***

Aim of the Study

In this study we aim to clarify clinical, pathological features and outcomes of the treatment modalities for Paget's disease of the breast at Ain Shams University Hospitals.

Chapter 1

ANATOMY OF BREAST

Breast is present in both females and males and bounded by 2nd rib superiorly, 6th rib inferiorly, sternum medially and axilla laterally.It is supported by pectoral muscles, serratus anterior muscles and Cooper's ligaments ***(Zucca-Matthes et al., 2016).***

IT is predominantly circular, except minor oblong part, which extends further into axillary region ("axillary tail"). And Divided into 4 quadrants.

Areola:

It is Darkened area around nipples containing *Glands of Montgomery* which are small sebaceous glands. It Enlarges during pregnancy and provide lubrication and protection to nipple ***(Zucca-Matthes et al., 2016).***

Nipple:

It is Porous which contains terminal ends of milk ducts and deliver milk to baby. Both areola & nipple have erectile smooth muscles (also prevents leaking) ***(Moore et al., 2009; Auerbach & Riordan, 2004).***

Parenchyma (functional):

It is Glandular with ducts makes up 2/3 of the tissue under areola & nipple.

Glandular tissue consists of 15-20 lobes each containing lobules which contains alveoli which contains lactocytes ***(Zucca-Matthes et al., 2016).***

Alveoli drain to small ducts drainig to larger ducts draining to milk ducts then to nipple ***(Zucca-Matthes et al., 2016).***

Figure (1): Alveoli and ducts of breast ***(Auerbach & Riordan, 2004).***

Stroma (supporting) containing Adipose interspersed throughout breast, Cooper's ligaments, Blood vessels, Lymphatics and Nerves ***(Zucca-Matthes et al., 2016).***