بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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Characterisation of Inflammatory Breast Cancer in Egypt

Thesis

Submitted for Partial Fulfillment of
Master Degree in ***General Surgery***

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List of Contents

List of Tables

List of Figures

List of Figures (Cont.)

List of Abbreviations

Abbreviation	Full term
AC	Anthracycline and Cyclophosphamide
ADH	Atypical Ductal Hyperplasia
AJCC	American Joint Committee on Cancer
ALH	Atypical Lobular Hyperplasia
ALK	Anaplastic Lymphoma Kinase
AR	Androgen Receptor
ASCO/CAP	American Society of Clinical Oncology/ College of American Pathologists
BCS	Breast-Conserving Surgery
BMI	Body Mass Index
CISH	Chromogenic in Situ Hybridization
CT	Computed Tomography
CTH	Chemotherapy
DCIS	Ductal Carcinoma in Situ
EGFR	Epidermal Growth Factor Receptor
ER	Estrogen Receptor
FDA	Food and Drug Administration
FISH	Fluorescent in Situ Hybridization
GPR30	G Protein-coupled Receptor 30
Gy	Gray
HER2	Human Epidermal Growth Receptor 2
HR	Hormone Receptors
HRT	Hormone Replacement Therapy
IBC	Inflammatory Breast Cancer
IDC	Invasive Ductal Carcinoma
IGF	Insulin-like Growth Factor
IHC	Immunohistochemistry
ILC	Invasive Lobular Carcinoma

ISH	In Situ Hybridization
LABC	Locally Advanced Breast Cancer
LCIS	Lobular Carcinoma in Situ
LNs	Lymph Nodes
MRI	Magnetic Resonance Imaging
MRM	Modified Radical Mastectomy
NACT	Neoadjuvant Chemotherapy
NAT	Neoadjuvant Therapy
NOS	Not Otherwise Specified
NST	No Special Type
OCP	Oral Contraceptive Pills
PAS	Periodic acid-Schiff
pCR	Pathological Complete Response
PET/CT	Positron Emission Tomography/Computed Tomography
PR	Progesterone Receptor
RTH	Radiotherapy
SD	Standard Deviation
SISH	Silver in Situ Hybridization
SLN	Sentinel Lymph Node
TNBC	Triple-Negative Breast Cancer
UICC	Union for International Cancer Control
US	Ultrasonography
WHO	World Health Organization
WISP3	WNT-inducible Signaling Protein 3

Introduction

Inflammatory breast cancer (IBC) is a rare and fatal type of breast cancer, representing about 2.5% of all breast malignancies and 7% of all breast cancer-related deaths in the USA. IBC affects younger women with median age at diagnosis of 57 years. IBC is classified as T4d by UICC TNM classification system ***(Hance et al, 2005) (Anderson et al, 2006) (Fouad et al, 2017)***.

IBC was first described in the published scientific literature in 1814 by Sir Charles Bell. The term "Inflammatory breast cancer" was first suggested in 1924 by Lee and Tannenbaum. The term "primary IBC" was coined in 1938 to distinguish between the true IBC and "secondary IBC" which was defined as secondary skin changes in breast cancer or recurrence of non-IBC breast cancer ***(Bell, 1814) (Lee and Tannenbaum, 1924) (Taylor and Meltzer, 1938)***.

Until now, there is no definitive molecular or pathological diagnostic criteria for IBC, and diagnosis is mainly clinically and confirmed by invasive underlying pathology. Clinically, IBC is presented by rapid onset, within 6 months, and progressive course of erythema of at least one-third of the breast, warmth and dermal edema (i.e. peau d'orange), with or without an underlying palpable mass. More than half of the patients are presented with metastasis to axillary lymph nodes and up to one-third of the patients have distant metastasis at diagnosis. Dermal lymphatic tumor emboli in a skin punch biopsy is a hallmark and pathognomonic for IBC, but not required for diagnosis ***(Anderson et al., 2006) (Yamauchi et al., 2012) (Walshe and Swain, 2006) (Dawood et al., 2011)***.

Hormone receptors; estrogen receptor and progesterone receptor, as well as human epidermal growth factor receptor 2 and Ki67 are important to define the molecular subtypes of IBC according to immunohistochemistry, to predict prognosis and to optimize therapeutic regimens ***(Robertson et al., 2010) (Van Laere et al., 2013)***.

In Egypt, IBC represents about 11% of all breast cancer cases. Patients are about a decade younger than patients in Western countries, but similar to age of patients in Asian countries. Also, IBC patients are younger than non-IBC patients, with median age of 49 years ***(Soliman et al., 2009) (El-Shinawi et al., 2013) (Sabet et al., 2017)***.

Aim of the Work

This study aims to evaluate the molecular subtypes of IBC among Egyptian patients, with characterisation of the patients according to age at diagnosis, pathological type and grade, immunohistochemistry, stage at diagnosis and metastasis at diagnosis.