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Analysis Of Inflammatory breast cancer cases at Cairo university hospitals over four years

Thesis

Submitted for partial fulfillment of M.Sc. degree
In general surgery

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جامعه القاهره / كلية الطب
الدراسات العليا

محضر
اجتماع لجنة الحكم على الرسالة المقدمة من
الطبيب / [illegible]
توطئة للحصول على درجة الماجستير / الدكتوراه
فى [illegible]

تحت عنوان : باللغة الانجليزية : Analysis of Inflammatory Breast cancer cases at cairo university hospitals over 4 years.

: باللغة العربية : تحليل حالات سرطان الثدى الالتهابى بمستشفيات جامعة القاهرة خلال أربع سنوات

بناء على موافقة الجامعة بتاريخ / / ٢٠٠ تم تشكيل لجنة الفحص والمناقشة للرسالة المذكورة أعلاه على النحو التالى :-

١. [illegible] المشرفين
٢. [illegible] ممتحن داخلى
٣. [illegible] ممتحن خارجى

بعد فحص الرسالة بواسطة كل عضو منفردا وكتابة تقارير منفردة لكل منهم انعقدت اللجنة مجتمعة فى يوم [illegible] بتاريخ ١٦ / ١١ / ٢٠١٣ بقسم [illegible] مدرج [illegible] بكلية الطب – جامعة القاهرة وذلك لمناقشة الطالب فى جلسة علنية فى موضوع الرسالة والنتائج التى توصل اليها وكذلك الأسس العلمية التى قام عليها البحث .

قرار اللجنة : [illegible]

توقيعات أعضاء اللجنة :-

المشرف الممتحن	الممتحن الداخلى	الممتحن الخارجى
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عصام

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NCI	National Cancer Institute.
ABCSG	Austrian Breast and Colorectal Cancer Study Group.
ADCC	Antibody Dependent Cell mediated Cytotoxicity.
AJCC	The American Joint Committee on Cancer
ASCO	The American Society of Clinical Oncology
ATAC	Arimidex, Tamoxifen, Alone or in Combination.
BCT	Breast conservative therapy.
BIG1-98	Breast International Group.
CAM	Complementary and Alternative Medicine.
CAP	College of American Pathologists.
COX-2	Cyclooxygenase 2.
DCIS	Ductal Carcinoma In Situ.
DFS	Disease Free Survival .
EOD- E	Extent Of Disease – Extent.
EOD-S	Extent Of Disease-S.
EREG	EPIREGULIN: a member of the epidermal growth factor family.
FDA	Food and Drug Administration.
FISH	Fluorescence In-Situ Hybridization.
Flk-1	Fetal Liver Kinase-1.
FTIs	Farnesyl Transferase Inhibitors.
GnRH	Gonadotropin Releasing Hormone.
H&E	Haematoxilin and Eosin.
HD-CT	High Dose – Chemo Therapy.
HDI	HER-Dimerization Inhibitors.
IBC	Inflammatory Breast Cancer.
IES	Intergroup Exemestane Study.
ITA	Italian Tamoxifen Arimidex .
LABC	Locally Advanced Breast Cancer .
LHRH	Lutinizing Hormone Releasing Hormone.
MHz	Mega Hertz.
MMP-9	Matrix Metallo-Proteinase-9.
MRI	Magnetic Resonance Imagining .

Abbreviations

MTD	Maximum Tolerated Dose.
MTT	Molecular Targeted Therapy.
MUC1	A Transmembrane Mucin That Is Highly Expressed In Various Cancers.
MVD	Microvessel Density.
MYCN	V-Myc Myelocytomatosis Viral Related Oncogene, Neuroblastoma Derived (Avian), also known as MYCN, Is a human gene.
OFS	Ovarian Function Suppression.
OS	Overall Survival.
ORR	Overall Response Rate.
PAI-1	Plasminogen Activator Inhibitor.
PET	Positrone Emission Tomography.
PEV	Poussee Evolutive.
PTEN	The Tumour-Suppressor Phosphatase with Tensin Homologue (PTEN).
RhoC-GTPase	Ras Homolog Gene Family, Member C- Guanosine Triphosphate .
Rt-PCR	Polymerase Chain Reaction.
SEER	Surveillance, Epidemiology, and End Results.
SERMs	Esteron Receptor Modulators.
SHH	Sonic Hedgehog Protein Precursor .
TKI	Tyrosine Kinase Inhibitor.
TNF	Tumor Necrosis Factor.
ULABC	Unresectable Locally Advanced Breast Cancer.
UPA	Urokinase Plasminogen Activator.
VEGF	Vascular Endothelial Growth Factor .
VEGFR1	Vascular Endothelial Growth Factor Receptor1/Flt-1.
IBCSG	International Breast Cancer Study Group

Abstract

Inflammatory breast cancer is a rare but highly aggressive form of locally advanced breast cancer. Inflammatory breast cancer accounts for about 5% of all cases of breast cancer. In general, women with inflammatory breast cancer present at a younger age, and in black. IBC is more likely to have metastatic disease at diagnosis, and have shorter survival than women with non-inflammatory breast cancer. The characteristic pathologic finding is dermal lymphatic invasion by carcinoma, which can lead to obstruction of the lymphatic drainage causing the clinical picture of erythema and edema. Inflammatory carcinoma of the breast has distinct biological characteristics that differentiate it from non-inflammatory carcinoma. These tumors more often have a high S-phase fraction, are high-grade, are aneuploid, and lack hormone receptor expression and her2neu overexprestion. In addition, inflammatory carcinomas are more likely to have mutations in *p53* and to have high levels of vascular endothelial growth factor (VEGF) which account for tumor neovascularization and the lymphotactic process in inflammatory breast cancer. Also IBC are more likely to express E-cadherin, a trans-membrane glycoprotein that mediates cell-cell adhesion, and may contribute to the aggressive lymphovascular invasion seen in inflammatory cancers. Several genes have been identified that might contribute to the aggressive clinical behavior of inflammatory breast cancer. The overexpression of *RhoC GTPase* and the loss of expression of *LIBC* (lost in inflammatory breast cancer) were highly correlated with an inflammatory carcinoma phenotype. *LIBC*, a novel gene, was lost in 80% of inflammatory specimens in comparison with 21% of non inflammatory tumors. *RhoC GTPase*, a gene involved in cytoskeletal reorganization, was overexpressed in 90% of inflammatory tumors in comparison with 38% of non-inflammatory cancers. Furthermore, when a stable *RhoC* transfectant cell line was created, *RhoC* behaved as a transforming oncogene conferring a highly invasive phenotype similar to that seen in inflammatory breast cancer. These genes remain a promising avenue for future investigation.

KEYWORDS:

Inflammatory breast cancer
Diagnosis
Treatment
Cairo University Hospitals