



بسم الله الرحمن الرحيم

∞∞∞∞

تم رفع هذه الرسالة بواسطة / حسام الدين محمد مغربي

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى

مسئولية عن محتوى هذه الرسالة.

ملاحظات : لا يوجد





Comparative Study between Level 1 Oncoplasty and Round Block Excision in Management of Early Stage Breast Cancer

Thesis

*Submitted for partial fulfillment of master degree in
General Surgery*

By

Omar Ahmed Mohamed Negm

MBBCH- Faculty of Medicine

Misr University for Science and Technology (MUST)

Supervised by

Prof. Mohamed Ahmed Khalfalla

Professor of General Surgery

Faculty of Medicine, Ain Shams University

Assist. Prof. Ahmed Gamal El Din Osman

Assistant Professor of General Surgery

Faculty of Medicine, Ain Shams University

Dr. Moatasem Bellah Abd Elhameed Erfan

Lecturer of General Surgery

*Faculty of Medicine, Misr University for Science
and Technology (MUST)*

Faculty of Medicine
Ain Shams University

2022

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

سببنا أنك لا تعلم لنا
إلا ما علمتنا أنك أنت
العليم العظيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

Acknowledgment

*First and foremost, I feel always indebted to **Allah**, the Most Kind and Most Merciful.*

*I'd like to express my respectful thanks and profound gratitude to **Prof. Mohamed Ahmed Khalfalla**, Professor of General Surgery - Faculty of Medicine- Ain Shams University for his keen guidance, kind supervision, valuable advice, instructions and continuous encouragement, which made possible the completion of this work.*

*I am also delighted to express my deepest gratitude and thanks to **Assist. Prof. Ahmed Gamal El Din Osman**, Assistant Professor of General Surgery, Faculty of Medicine, Ain Shams University, for his guidance, active participation and constant help throughout this work.*

*I am deeply thankful to **Dr. Moatasem Bellah Abd Elhameed Erfan**, Lecturer of General Surgery, Faculty of Medicine, Misr University for Science and Technology (MUST), for his great help, cooperation and guidance.*

I would like to express my hearty thanks to all my family for their support till this work was completed.

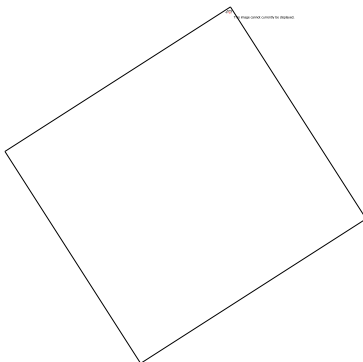
Last but not least my sincere thanks and appreciation to all patients participated in this study.

Omar Ahmed Mohamed Negm



*I would like to thank God, for letting me through all the difficulties. I have experienced your guidance day by day.
You are the one who let me finish my degree.
I will keep on trusting you for my future.*

*I would also like to give special thanks to my Mother
Dr. Samia Abu Farha and my Father's soul **Dr. Ahmed Negm** and my Wife **Dr. Salma Mohamed** and my Brother **Dr. Mohamed Negm** and my Family as a whole for their continuous support and understanding when undertaking my research and writing my project. Your prayer for me was what sustained me this far.*



List of Contents

Title	Page No.
List of Tables	i
List of Figures	iii
List of Abbreviations.....	vi
Introduction	1
Aim of the Work.....	5
Review of Literature	6
Epidemiology	8
Anatomy of the breast	11
Risk factors for development of breast cancer.....	23
The Common Breast Complaints.....	29
Pathogenesis of breast cancer	38
Diagnosis	41
Types of breast cancer	47
Grade and differentiation	53
Staging of breast cancer	55
Management.....	64
Patients and Methods.....	76
Results	95
Discussion	122
Summary	126
Conclusion.....	129
Recommendations	132
References	133
Arabic Summary.....	١

List of Tables

Table No.	Title	Page No.
Table (1):	Descriptive data for the demographics and characteristics of the studied patients.	95
Table (2):	Descriptive data for assessment of patients pre-operative.	97
Table (3):	Descriptive data for assessment of operative patients status.	98
Table (4):	Post-operative complications in surgical bed.	99
Table (5):	Patients satisfaction questionnaire analysis.	100
Table (6):	Type of cancer by biopsy in the study groups.	101
Table (7):	Comparison of age and body mass index between level one and round block group.	102
Table (8):	Comparison medical history of the studied patients between level one and round block group.	104
Table (9):	Comparison of radiological findings and chemotherapy characters of the studied patients between level one and round block group.	106
Table (10):	Comparison of operative data between level one and round block group.	108
Table (11):	Comparison of Postoperative complications in surgical bed between level one and round block group.	110
Table (12):	Comparison of Postoperative patient satisfaction in surgical bed between level one and round block group.	111
Table (13):	Comparison of biopsy results between level one and round block group.	114

List of Tables (Cont...)

Table No.	Title	Page No.
Table (14):	Comparison of post-operative complications among diabetic cases.....	115
Table (15):	Relation between breast cancer stage and chemotherapy indication.....	116
Table (16):	Relation between cancer type and lines of treatment among studied cases.....	118
Table (17):	Relation between Tumor size by sonomamograpgy and Stage of breast cancer among studied cases.....	119
Table (18):	Relation between presence of seroma and drain among studied cases.....	121

List of Figures

Fig. No.	Title	Page No.
Figure (1):	Anatomy of the female breast.....	15
Figure (2):	The breast fascia and ligaments which support the breast	16
Figure (3):	Nerve supply to the breast	18
Figure (4):	Lymphatic drainage of the breast.....	20
Figure (5):	Blood supply of the breast	21
Figure (6):	Pathogenesis of breast cancer.....	38
Figure (7):	Variable imaging methods for breast cancer	42
Figure (8):	Vacuum assisted biopsy	45
Figure (9):	Types of breast cancer and their percentage	47
Figure (10):	Grades of breast cancer	53
Figure (11):	Stages of breast cancer	55
Figure (12):	Circumareolar incision and site of the mass	70
Figure (13):	Steps of excision of mass by circumareolar incision	71
Figure (14):	Site of mass by sonomammography and circumareolar incision	71
Figure (15):	Round block technique	73
Figure (16):	Preoperative drawing of inner and outer incision liner and site of the mass.	80
Figure (17):	The incision of the inner and outer circles.	82
Figure (18):	De-epithelialization between the outer and the inner incisions.	82
Figure (19):	Excision of the mass and clipping of operative bed for post-operative radiotherapy	83
Figure (20):	The excised mass.	85
Figure (21):	Re-approximation of the superficial portion of the breast.	86
Figure (22):	a-3 rd , b-10 th day post-operative wound.....	88
Figure (23):	Preoperative drawing of the site of incision and site of the mass.	90
Figure (24):	The lump was lifted up with the pectoralis fascia and elevated outside the skin envelope.....	91

List of Figures (Cont...)

Fig. No.	Title	Page No.
Figure (25):	Clipping of surgical bed to detect the site for radiotherapy	91
Figure (26):	Subcuticular closure of incisions.....	92
Figure (27):	3 rd day post-operative.	93
Figure (28):	Descriptive data for the demographics and characteristics of the studied patients.	96
Figure (29):	Post-operative complications in surgical bed	99
Figure (30):	Biopsy result of the studied lesion.....	101
Figure (31):	Mean age of the studied patients between studied groups that shows mean of 46.41 and 48.13 for level one and round block groups, respectively.	103
Figure (32):	Mean weight, height & body mass index (BMI) of the studied patients between studied groups that shows mean BMI of 32.47 and 32.97 for level one and round block groups, respectively.....	103
Figure (33):	Distribution of medical history among studied groups.....	105
Figure (34):	Chemotherapy frequency among studied groups.....	107
Figure (35):	Chemotherapy time among studied groups.....	107
Figure (36):	Mean duration of mass excision between studied groups.....	109
Figure (37):	Mean amount of blood loss between studied groups.....	109
Figure (38):	Distribution of satisfaction about breast symmetry among studied groups. Among level one group; 46.2% were very satisfied and none were dissatisfied. Among round block group; 10.3% were very satisfied and 10.3% were dissatisfied.	112
Figure (39):	Distribution of about nipple site and direction among studied groups. Among level one group; 66.7% were very satisfied and none were dissatisfied. Among round block group; 43.6% were very satisfied and 7.7% were dissatisfied.	113

List of Figures (Cont...)

Fig. No.	Title	Page No.
Figure (40):	Distribution of Satisfaction about breast lumpectomy look among studied groups. Among level one group; 53.8% were very satisfied and none were dissatisfied. Among round block group; 10.3% were very satisfied and 10.3% were dissatisfied.	113
Figure (41):	Skin complications and delayed wound healing among studied groups	115
Figure (42):	Stage of breast cancer according to chemotherapy indication.....	117
Figure (43):	Relation between size and stage of cancer among studied cases.....	120
Figure (44):	Relation between tumour stage and nodal status among studied cases.	120
Figure (45):	Relation between presence of seroma and use of drain among studied cases.	121

List of Abbreviations

Abb.	Full term
ADH	<i>Atypical Ductal Hyperplasia</i>
AJCC	<i>American Joint Committee on Cancer.</i>
ALH	<i>Atypical Lobular Hyperplasia</i>
ALT	<i>Alanine transaminase</i>
AST	<i>Aspartate aminotransferase</i>
BCS	<i>breast conservation surgery</i>
BCT	<i>Breast Conserving Therapy</i>
BRCA	<i>Breast Cancer gene</i>
BSE	<i>Breast self examination</i>
Ca	<i>Cancer</i>
CA	<i>Carcinoma Antigen</i>
CBC	<i>complete blood count</i>
CK	<i>Creatine kinase</i>
Cm	<i>Centimeter</i>
CT	<i>Computed tomography</i>
DCIS	<i>Ductal carcinoma in situ</i>
DES	<i>Diethystibestrol</i>
DFS	<i>Disease free survival</i>
DNA	<i>Deoxyribonucleic acid</i>
ER	<i>Estrogen Receptor</i>
GnRH	<i>Gonadotropin Releasing Hormones</i>
HER-2	<i>Human epidermal growth factor receptor 2</i>
HRT	<i>Hormonal Replacement Therapy</i>
IHC	<i>Immuno histo chemistry</i>
ILC	<i>Infiltrating lobular carcinoma</i>
ITCs	<i>Isolated Tumour Cell</i>

<i>IUDs</i>	<i>Intra Uterine Device</i>
<i>LCIS</i>	<i>Lobular carcinoma in situ</i>
<i>Mm</i>	<i>Mille meter</i>
<i>MRI</i>	<i>Magnetic resonance Imaging</i>
<i>MRM</i>	<i>Modified Radical Mastectomy</i>
<i>NAC</i>	<i>Nipple-areolar complex</i>
<i>NSM</i>	<i>Nipple sparing mastectomy</i>
<i>OBCS</i>	<i>Oncoplastic Conserving surgery</i>
<i>OPS</i>	<i>Oncoplastic surgical techniques</i>
<i>P53</i>	<i>Tumor suppressor protein</i>
<i>PCR</i>	<i>Pathological Complete Response</i>
<i>PET</i>	<i>positron emission tomography</i>
<i>PR</i>	<i>Progesterone Receptor</i>
<i>PT</i>	<i>Prothrombin time</i>
<i>PTT</i>	<i>Partial thromboplastin time</i>
<i>RM</i>	<i>Radical mastectomy</i>
<i>RM</i>	<i>Radical Mastectomy</i>
<i>sBCS</i>	<i>Standard Breast Conserving Surgery</i>
<i>SSM</i>	<i>Skin sparing mastectomy</i>
<i>SSRI</i>	<i>Selective Serotonin reuptake inhibitors</i>
<i>TNM</i>	<i>Tumor Node Metastasis</i>
<i>US</i>	<i>Ultra sound</i>
<i>USA</i>	<i>United States of America</i>

INTRODUCTION

Breast cancer is the most frequent cancer in women and the world's second most common cancer. In 2018, there were approximately 2 million new cases. According to data sources, about 268,600 newly diagnosed women with invasive illness (48,100 cases of ductal carcinoma in situ [DCIS]) were diagnosed in the United States in 2019, accounting for 15.2 percent -30 percent of all new cancer cases among women (*Siegel et al., 2019*).

Breast cancer kills over 42,000 women per year in the United States, making it the second-leading cause of cancer death among women behind lung cancer. Breast cancer has a lifetime risk of mortality of roughly 2.6 percent (*DeSantis et al., 2019*).

Wide excision was the standard surgical therapy for breast cancer at the time, but it was linked with a high risk of local recurrence and poor survival. In 1894, William Halsted developed radical mastectomy. The local recurrence rate was significantly reduced after radical mastectomy (RM), although the curative potential remained limited. Extensive radical mastectomy, which included internal mammary node dissection, was unsuccessful in improving survival (*Rahman et al., 2011*).