Ain shams university
Faculty of medicine
General surgery
Department

Updates in Therapeutic Mammoplasty

An essay

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By

Ahmed Magdy Bakr

M.B, B.CH,

Supervisors

Prof. Dr. Awad Hassan El-kayal

Professor of general surgery

Faculty of medicine - Ain Shams University

Dr. Mohammed Ibrahim Hassan Boraie

Lecturer of general surgery

Faculty of medicine - Ain Shams University

Dr. Ibrahim Mohammed El-zayat

Consultant of general surgery

Mansoura International Hospital

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"قَالَ رَبِّ اشْرَحْ لِي صَدْرِي (٢٥) وَيَسِّرْ لِي
أَمْرِي (٢٦) وَاحْلُلْ عُقْدَةً مِّن لِّسَانِي (٢٧)
يَفْقَهُوا قَوْلِي (٢٨)"

صدق الله العظيم

سورة طه(٢٥-٢٨)

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AC	Adriamycin and cyclophosphamide
AJCC	American Joint Committee on Cancer
ASR	Age-Standardized Incidence Rates
BCCG	Breast Cancer Co-operative Group
BCS	Breast Conservative surgery
BCT	Breast Conservative Therapy
Bmi-1	B lymphoma Mo-MLV insertion region 1 homolog
BRCA1	Breast cancer susceptibility gene1
BRCA2	Breast cancer susceptibility gene2
BrdU	Bromodeoxyuridine
CNB	Core-needle biopsy
CRUK	Cancer Research UK
CT	Computerized topography
DCIS	Ductal carcinoma in situ
EORTC	The European Organization for Research and Treatment of Cancer
EpCAM	Epithelial cell adhesion molecule
ER	Estrogen receptor
ESA	Epithelial -specific antigen
FNAC	Fine-needle aspiration cytology

HER2	Human epidermal growth factor receptor 2
ICAP	Intercostal artery perforator
IDC	Invasive (infiltrating) ductal carcinoma
ILC	Invasive (infiltrating) lobular carcinoma
LCIS	Lobular carcinoma in situ
LD	Latissimus dorsi
LRCs	Label retaining cells
M	Distant metastasis
MCF-7	Michigan Cancer Foundation-7 cell line
MMG	Mammography
MRI	Magnetic resonance imaging
MRM	Modified Radical Mastectomy
Muc	Sialomucin
N	Lymph node involvement
NAC	Nipple-areola complex
NCCN	National Comprehensive Cancer Network
NICE	National Institute for Clinical Excellence
NOD/SCID	No obese Diabetic/Severe Combined Immunodeficiency
OPS	Oncoplastic surgery
PR	Progesterone receptor
QoL	Quality of life
T	Tumor size

TDAP	Thoracodorsal artery perforator
TM	Therapeutic mammoplasty
TRAM	Transverse rectus abdominis muscle
UK	United Kingdom
US	Ultrasound examination

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AIM OF THE WORK

Review of updates in **Therapeutic mammaplasty** (TM) for early breast cancer regarding oncological and aesthetic outcomes.

INTRODUCTION

Breast cancer is currently the second most common malignancy in the world, with 1.38 million new cases reported in last year. Despite the rise of overall incidence, mortality from breast cancer continues to fall due to improved early detection with mammographic screening and advances in therapy ***(Meretoja TJ et al., 2010)***.

Halstedian techniques and principles in mastectomy being the gold standard. The era of breast-conserving therapy (BCT) was promised by two landmark prospective randomized clinical trials by Fisher and Veronesi that demonstrated equivalent survival with BCT and conventional treatment when comparing surgery of small tumours ***(Clough K et al. , 2010)*** .

Breast-conserving therapy (BCT) followed by radiotherapy has quickly become the new gold standard for treatment of invasive breast carcinomas up to 5 cm in size and is being used in the treatment of ductal carcinoma in situ (DCIS) ***(Petit JY et al. , 2011)*** .

The treatment of breast cancer in large-breasted patients represents a great challenge to both surgeons and radiation oncologists, with such patients representing about 30%–40% of women undergoing breast-conserving therapy. After traditional breast conservation therapy, 20%–30% of patients were reported to have poor cosmetic results. Patients with macromastia treated with breast conservation therapy develop more complications and unacceptable cosmesis due to heterogeneous distribution of radiotherapy dose and suboptimal positioning of the breast between treatment sessions ***(Carlson RW et al., 2011).***

Bilateral reduction mammoplasty when performed simultaneously using a superomedial pedicle results in a better esthetic result and improves oncological safety, because the tissues removed will include any lesion in the upper outer, lower outer, or lower inner quadrants, with a wider safety margin. Also, it offers a means of obtaining smaller and symmetrical breasts that tolerate radiotherapy more easily so the word (Therapeutic mammaplasty (TM) for breast cancer) appeared in our world and became a widely practiced oncoplastic technique ***(Fitoussi AD et al., 2010).***

Therapeutic mammaplasty (TM) is an oncoplastic surgical technique that involves glandular remodeling that uses the versatility of reduction mammaplasty techniques as well as other parenchymal displacement techniques which improves the patient's psychological status and quality of life. Oncologically, TM allows excision of the tumour with a wide margin, histological screening of the contralateral breast, and improved outcomes of postoperative radiotherapy. TM also offers symptomatic improvement in women with macromastia ***(Alexandra G et al., 2012)***.

SURGICAL ANATOMY OF THE BREAST