Advantages & Risks Of Breast Conservation Therapy In The Treatment Of Breast Cancer

Essay

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by

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LISTS OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

AJCC	The American Joint Committee on Cancer
ASCO	American Society of Clinical Oncology
BCS	Breast Conserving Surgery
BCT	Breast Conserving Therapy
BI-RADS	American College of Radiology Breast Imaging Reporting and Data System
BSE	Breast Self-Examination
CAP	The Collage of American Pathologists
CBE	Clinical Breast Examination
CC	Cranial-Caudal
CT	Computed Tomography
CTX	Chemotherapy
DEXA	Dual Energy X-ray Absorptiometry
EBCTCG	The Early Breast Cancer Trialists' Collaborative Group
EIC	Extensive Intraductal Component
ER	Estrogen Receptor
FNA	Fine Needle Aspiration

H&E	Hematoxylin and Eosin
HER٢	Human Epidermal growth factor Receptor ٢
IDC	Invasive Ductal Carcinoma
IHC	Immunohistochemistry
ILC	Invasive Lobular Carcinoma
LCIS	Lobular Carcinoma In Situ
LM	Latero-Medial
ML	Medio-Lateral
MLO	Medio-Lateral-Oblique
MRI	Magnetic Resonance Imaging
MRM	Modified Radical Mastectomy
NCCN	National Comprehensive Cancer Network
NSM	Nipple-Sparing Mastectomy
ROLL	Radioisotope-guided Occult Lesion Localization
RS	Recurrence Score
RT	Radiotherapy
RT-PCR	Real-Time Polymerase Chain Reaction
SLN	Sentinel Lymph Node

SSM	Skin - Sparing Mastectomy
TRAM	Transverse Rectus Abdominis Myocutaneous
UICC	International Union Against Cancer
US	Ultrasonography
VACNB	Percutaneous Vacuum-Assisted large-gauge Core Biopsy
WHO	World Health Organization

INTRODUCTION

Breast cancer in females represents a major health problem. It is the commonest cancer in the women worldwide. It accounts for nearly ٣٠٪ of female cancer. ***(Greenlee et al.,*** ***)***

Breast cancer is the commonest cause of death due to cancer in females throughout the world. The incidence of breast cancer especially the early- stage is increasing . This increase in incidence may be due to the increase in early detection by screening and self-examination**.** ***(Veronesi et al.,*** ***.)***

Although surgery remains the principal initial treatment for early- stage breast cancer, the choice of procedure can be controversial. Because of continuing research into new treatment methods, women with early-stage breast cancer now have more treatment options and better chance for long- term survival than ever before. The primary treatment for early-stage female breast cancer is either breast-conserving surgery (BCS) and radiotherapy or mastectomy (MRM) with or without breast reconstruction.***(Morrow et al.,*** ***)***

Total mastectomy has been the standardized primary treatment in all stages, early or late, of breast cancer. Now,

BCT is established as a safe oncologic treatment for early stage breast cancer. A thorough understanding of risk factors for local recurrence and to achieve lumpectomy margin control is necessary for optimal application. Neoadjuvant chemotherapy, as well as advances in breast imaging, cytopathology, and radiotherapy, have successfully expanded the number of lumpectomy-eligible cases.***(Lisa Newman and Henry Kuerer,*** ***)***

Local recurrence after breast conserving surgery and radiotherapy may be due to inappropriate patient selection, inadequate surgery or radiation therapy, or biologically aggressive disease.***(Monica Morrow et al.,*** ***)***

However, a suspicion of breast cancer requires coordination among the involved physicians. An integrated approach with breast and reconstructive surgeons, radiation and medical oncologists, radiologists and pathologists often yields the most expendient evaluation and facilitates the kind of communication and coordination that maximizes therapeutic options.***(Chang et al.,*** ***)***

For most patients, the choice of mastectomy with or without reconstruction or breast conservation treatment does not impact on the likelihood of survival, but it may have a

differential effect on the quality of life. Psychological research comparing patient adaptation following mastectomy and breast conservation treatment shows significant differences in global measures of emotional distress. Women whose breasts are preserved have more positive attitudes about their body image and experience fewer changes in their frequency of breast stimulation and feelings of sexual desirability .***(Zhi-Ming Shao et al.,*** ***)***

AIM OF WORK

The aim of this work is to review the advantages & risks of breast conservation therapy in relation to different methods of surgical treatment of the female breast cancer.

SURGICAL ANATOMY OF THE FEMALE BREAST

The breast is made up of fatty tissue and glandular, milk-producing tissues. The ratio of fatty tissue to glandular tissue varies among individuals. In addition, with the onset of menopause (ie, decrease in estrogen levels), the relative amount of fatty tissue increases as the glandular tissue diminishes. ***(Maxwell & Gabriel,*** ***)***

Site and extension:

The base of the breast overlies the pectoralis major muscle between the second and sixth ribs in the non ptotic state. The gland is anchored to the pectoralis major fascia by the suspensory ligaments first described by Astley Cooper in ١٨٤٠. These ligaments run throughout the breast tissue parenchyma from the deep fascia beneath the breast and attach to the dermis of the skin. Since they are not taut, they allow for the natural motion of the breast. These ligaments relax with age and time, eventually resulting in breast ptosis. The lower pole of the breast is fuller than the upper pole**.** The tail of Spence extends obliquely up into the medial wall of the axilla. ***(Maxwell & Gabriel,*** ***)***

The breast overlies the pectoralis major muscle as well as the uppermost portion of the rectus abdominis muscle inferomedially. The nipple should lie above the inframammary crease and is usually level with the fourth rib and just lateral to the mid-clavicular line. . ***(Maxwell & Gabriel,***

Emberiology

The mammary glands are modified sweat glands. The breast develops from the ectodermally derived milk streak. The milk streak extends between the limb buds from the primordial axilla distally to the inguinal region. In humans, normally only one gland develops on each side in the pectoral region. At the end of the first trimester, all but the pectoral portion of the milk streak atrophies, leaving the nipple bud. The ducts and lobules form from ingrowth of the ectoderm from the nipple surface, thus the breast is a dermaly derived organ. ***(Bland & Vezeridis,***

Size and shape

Its base is circular and measures around ١٠ to ١٢ cm, but its volume is very variable. The weight of a non-lactating breast ranges from ١٥٠ to ٢٢٥g, while a lactating breast may exceed ٥٠٠g in weight. The breasts of nulliparous women have a