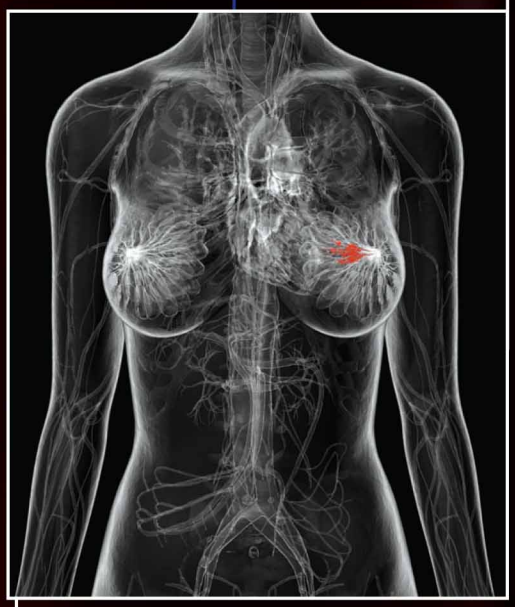
Ajay Mehta



Changing Paradigm in BREAST CANCER MANAGEMENT

JAYPEE

Contents

1. Epidemiology and Screening in Breast Cancer 1
2. Early Breast Cancer 21
3. TNM Classification: Clinical Implications for Breast Cancer Therapy 23
4. Gene-Expression Signatures: Clinical Implications for Breast Cancer Therapy 27
5. Breast Cancer Classification Using Gene- Expression Profiling 33
6. Breast Cancer Evolution, Understanding Heterogeneity 41
7. Breast Cancer Surgery: Shift from Halstedian Mastectomy to Nipple Sparing 47
8. Rationale Use of Chemotherapy, Radiotherapy and Hormone Therapy 53
9. Advances in the Treatment of Metastatic Breast Cancer 69
10. Practical Clinical Guidelines for Assessing and Managing Menopausal Symptoms after Breast Cancer 75
11. Bisphosphonates in Breast Cancer: The Present and Future 97

Index *107*

CHAPTER 3

TNM Classification: Clinical Implications for Breast Cancer Therapy

TNM classification was laid down at a time when radical mastectomy propounded by Halsted was in vouge. But with the changing Paradigm, biological predeterminism is taking importance.

OBJECTIVES OF TNM CLASSIFICATION

1. To aid the clinician in the planning of treatment
2. To give some indication of prognosis
3. To assist in evaluation of the results of treatment
4. To facilitate the exchange of information between treatment centers
5. To contribute to the continuing investigation of human cancer.

Objective Number 1: Treatment Planning

For planning Breast Conservative Treatment [BCT] following information is essential:

- Relative size of tumor compared to that of the breast
- Relationship of the tumor to the nipple
- Extent of skin tethering
- Presence of multicentricity
- Presence of extensive *in situ* elements.

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Planning treatment of axilla: Treatment in future may be based on sentinel node status and not on "N" status as more and more centers are doing sentinel node isolation. Predictive value of sentinel node is more than 95%.

TNM system does not help us in planning BCT.

Planning Adjuvant Systemic Therapy

- Nodal status is no longer relevant: Any tumor > 1 cm qualifies for the therapy. TNM staging has no relevance.
- Menopausal status determines type of therapy.
- ER status determines type of therapy.
- Newer biological predictive factors may determine type of therapy like, c-ErbB2. We now know that tumors with positive c-ErbB2 are more sensitive to anthracyclines than CMF.
- Over expression of Her2nu (3+) have aggressive behavior in the form of distant metastasis. These patients respond to Trastuzumab and Lapatinib.

Reclassification of supraclavicular gland as M1 disease misguided treatment planning.

Supraclavicular gland: Comparison with axillary node metastasis

Lymph node	5 year survival
• >10 axillary nodes	29%
• Ipsilateral SFC gland	34%

If the survival of women with more than 10 lymph nodes is worse than ipsilateral supraclavicular fossa gland then even massive axillary node involvement should be considered as M1 disease.

Supraclavicular fossa gland is blood borne metastasis whereas axillary node involvement is through lymphatics.

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Supraclavicular fossa gland: Comparison of laterality with lung metastasis.

Site	*Ipsilateral*	*Bilateral or contralateral*	*Total*
SCLN	84 [82.4%]	18 [17.6%]	102
Lung	23 [32.4%]	48 [67.6%]	71

(P< 0.00000000001. This is highly significant).

Objective Number 2: Giving Indication of Prognosis

- Number of involved nodes rather than nodal status give true indication of prognosis
- "T" size classification is too broad
- ER/PR status are determinants of prognosis
- Newer biological factors like Her2nu, cMyc oncogene amplification, expression level of PTEN, presence or absence of p95HER2 receptor will indicate prognosis in future.

Objective Number 3 and 4: Evaluation of Results and Exchange of Information

- Not possible because of broad nodal and "T" size classification
- Not possible because of lack of biological information.

Objective Number 5: Continuing Investigation of Breast Cancer

- Future investigations and research in breast cancer will be based on **biology** and not **anatomy** which the TNM classification represents.

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Changing Paradigm in BREAST CANCER MANAGEMENT

Salient Features

- A concise text
- Presents the recent advances in the field of breast cancer management
- Deals with evolution, epidemiology, classification, and management of breast cancer
- Includes rational uses of chemotherapy, radiotherapy, and hormone therapy
- Provides practical guidelines for assessing and managing menopausal symptoms of the disease
- Useful for students and teachers of oncology, surgery, medicine, etc. as well as practicing surgeons and oncologists.

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He is currently Director of Central India Cancer Research Institute, Nagpur, Maharashtra, India. He graduated from Grant Medical College, Mumbai, and did his Master in Surgery from Tata Memorial Hospital, Mumbai, Maharashtra, India. He is Fellow of American College of Surgeons and UICC, Geneva. He worked in various capacities at many places like Royal Postgraduate School, London, UK; National Cancer Institute, Tokyo, Japan; Royal Victoria Hospital, Montreal, Canada; City Coast Hospital, Wellington, New Zealand; Joint Director, RST Cancer Hospital, Nagpur; Director, NSRM Hospital, Nagpur; Director, Orange City Hospital, Nagpur; and Director, CICRI Hospital, Nagpur, Maharashtra, India.

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