Treatment of Carcinoma of the Breast

-An Update-

Essay presented by

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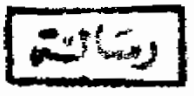

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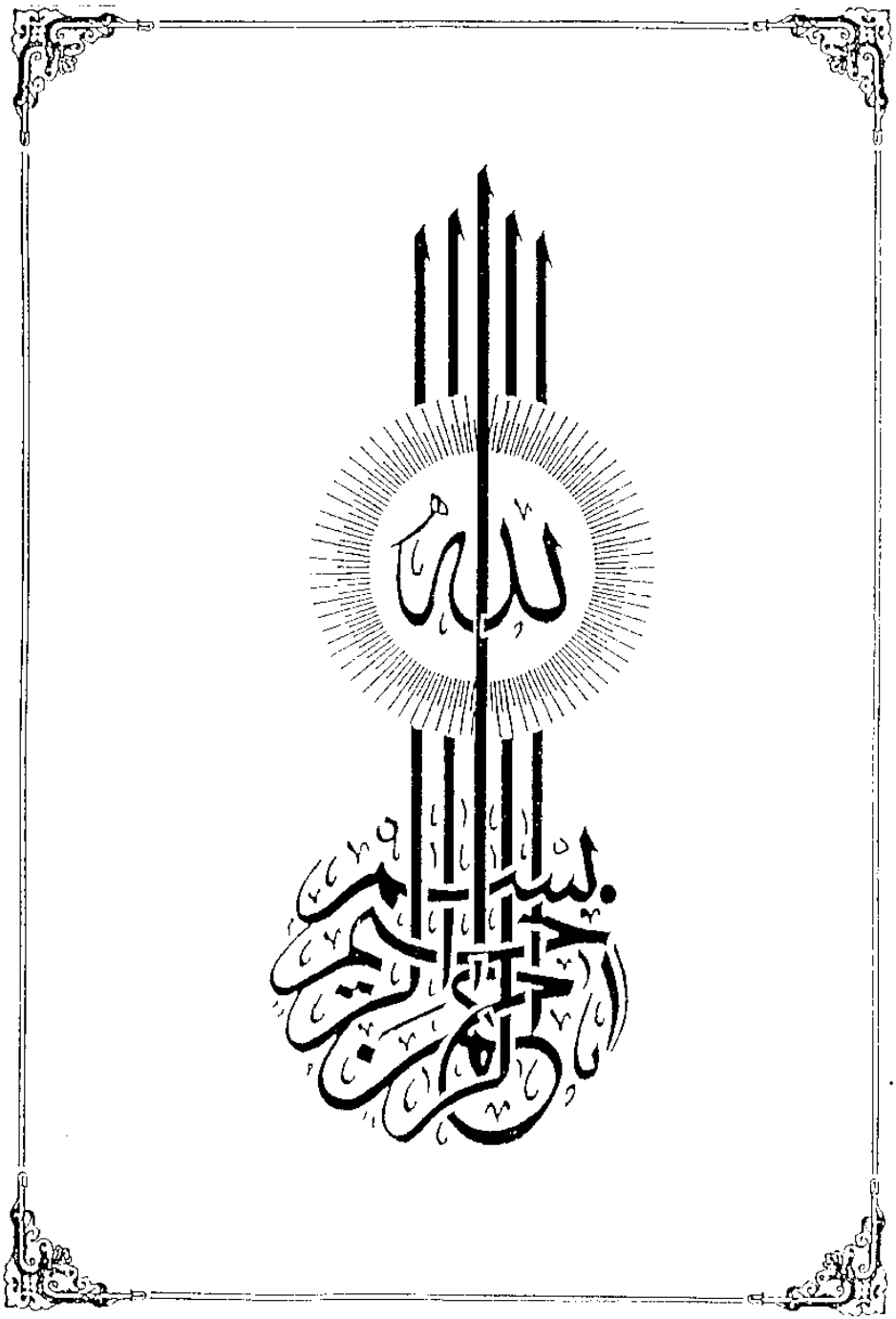

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Introduction

The diagnosis of carcinoma of the Breast is not difficult, however the treatment is debatable.

Many surgical alternatives are now available. The scale stretches between extended radical mastectomy and lumpectomy.

The choice of classical radical mastectomy remains to be the one which satisfies most surgeons in this country. This is not to imply that other alternatives are not gaining popularity in the treatment of this disease. Added to the surgical option is the choice of the appropriate adjuvant.

It is important to recognize the various surgical and non surgical means for the treatment of carcinoma of the Breast.

This essay is a display of the current state of knowledge as regards the various therapeutic options available for this rather perplexing issue.

Surgical Management of Breast Cancer

A great deal of controversy surrounds the surgical management of primary breast cancer not only in the type of surgical procedure used which stretched between extended radical mastectomy and lumpectomy but also in the rational for treatment and the goal of surgery in Breast Cancer. This is due to lack of adequate number of scientific well planned, controlled of surgical clinical trial and a minimum period of follow-up that will allow a reasonable judgment of the effect of any treatment method due to hetrogensity of the disease.

Surgical management of primary Breast Cancer include:

(1) Radical Mastectomy

Radical mastectomy as described in 1894 by William Halsted and Willy Meyer became the standard operation in the United States for operable breast cancer.

The procedure consists of an en bloc dissection of the entire breast and skin overlying the tumour, together with the pectoralis major and minor muscles and the contents of the axilla.

Pilch Y. H. 1984 said that this operation was based on the theory that breast cancer spread circumfugally with time to contiguous structures and could, therefor, be encompassed by a wide en bloc resection. The "permeation theory" of breast cancer spread promulgated by W. S. Handley, in 1906, supported this concept.

[Kinne D.W. 1983] the standard radical mastectomy is indicated for lesion close to or apparently invading the pectoralis major muscle, for a large tumour "larger than 3 cm in pathologic measurement" for those cancers very near to the sternum or clavicle and for those with a apparent involvement of Rotter's nodes.

It becomes obvious from recurrence and survival rates obtained from patients studied by the NSABP 5 years and 10 years after operation that conventional radical operation for the treatment of so-called curable breast cancer is a less than satisfactory form of therapy.

Pilch H. Y. 1984 reported that it resulted in 5-year relative survival rate of approximately 75 percent in stage I patients and 50 percent in stage II patients, and 10-year relative survival rates of approximately 70 percent for stage I and 40 percent for stage II patients.

Hellman S. et al 1982 stated that information from a more recent NSABP study indicates that 7 years after radical mastectomy 17% of axillary node negative patients and 57% of

those with any number of positive nodes (44% with 1-3 positive nodes and 70% with >4 positive nodes) had a tumour recurrence.

Pilch H.Y. 1984 reported that although the radical mastectomy certainly reduced the incidence of local recurrence profoundly little evidence can be found that this resulted in a increased number of cures or indeed significantly prolonged survival.

After the early 1900s, the radical mastectomy was often supplemented with postoperation irradiation, particularly if the axillary lymph nodes were found to contain metastases and/or if the primary tumour was located in the medial half of the breast, where spread to internal mammary nodes was more likely.

The morbidity associated with radical mastectomy in terms of arm swelling, deformity, and problems with wound healing is not insignificant. Those problems are all the more unacceptable when they occur in women who have failed to be cured of their disease by the procedure.

(2) Modified Radical Mastectomy

For many years the classical radical mastectomy, as described by Halsted,was the operation of choice for patients with invasive, potentially curable breast cancers. Recently, partly because of earlier diagnosis, and the increasing awareness of physicians and the lay public that properly selected minor operations can offer comparable survival and recurrence rates, there has been a distinct shift towards less radical operations; in the United States the preferred operation is now the modified radical mastectomy.

Leis H. P. (1980) stated that in 1972 the Breast Cancer Survey of the Commission on Cancer of the American College of Surgeons reported that the classical radical mastectomy was done in 50% of the patients and the modified radical in 30%. However, in 1977 the Commission reported that the figures were reversed: 63% of the patients had a modified radical mastectomy while only 22% had a classical radical operation.

Basically are only two main types of modified radical mastectomies. The first is a conservative or limited type and the other is a full, total or complete type.

In the conservative or limited type of modifiedradical mastectomy (Auchincloss or Madden type), which has also been referred to as an extended simple mastectomy, the entire breast is removed and a thorough and careful dissection of the axillary, or first level of nodes, is made.

The full, total or complete type of modified radical mastectomy (Patey and Dyson) involves removal of all the structures that are resected in the classical radical, except for the pectoralis major muscle.

Great care must be taken not to injure thenerves and blood supply to the pectoralis major muscle, otherwise it will atrophy and give an appearance similar to the radical mastectomy.

During both the conservative and full modified radical mastectomy, if the lesion is close to the pectoralis major muscle and there is possible involvement of it, a portion of the muscle is resected.

The conservative modified radical mastectomy was used for patients with preclinical invasive cancers (1 cm or less in size).

The full modified radical mastectomy was used for patients with invasive cancers that were of a good prognostic type without a tendency to metastasize (adenoid cystic, colloid, comedo with minimal stromal invasion, medullary with lymphoid infiltrate, papillary and tubular).

There was an increased percentage of better arm and shoulder function and a decreased percentage of significant arm edema as compared to series using more radical approaches.

The overall cosmetic appearance was also better than in more radical approaches: after a modified radical mastectomy or lesser procedure it is much better than after a radical mastectomy with its noticeable axillary and subclavicular hollows and prominent washboard appearance of the ribs.

With the preservation of at least the pectoralis major muscle in the majority of our patients, a satisfactory breast reconstruction.

Haagensen C.D. and Badion C. (1984) statedthat it is nottechnically possible to get the interpectoral lymph nodes "Rotter Node"out without removing both pectoral muscles in continuity with breast.

Wanebo et al (1974) reported a 98 per cent no-evidence-of-disease survival rate of 5 years and a 95 per cent no-evidence-of-disease survival rate of 10 years after having a modified radical mastectomy.

In 1975, Crile reported that 71 per cent (252 of 355) of patients with stage I and stage II disease survived at least 5 years and 45 per cent (158 of 355) survived at least 10 years after having been treated with modified radical mastectomy.

(Leis and Cammarata, 1983) reported survival rates of 96.2 per cent for stage 0, 73 per cent for stage I, and 42 per cent for stage II, based on 1147 patients surviving 10

years after modified radical mastectomy. The local recurrence was 7.3 per cent in their experience.

(Turner L. et al 1981) reported that a prospective randomised trial (534 patients, 1969-76) was designed to determine whether radical mastectomy conferred advantages over modified radical mastectomy for breast cancer in terms of total survival, local recurrence, distant metastasis, and disease free interval. The results showed no significant difference in outcome as regards these variables between the two treatments for patient with clinically stage I and II breast cancer.

Baker R.R. et al 1979 reported that no statistically significant difference in 5-year survival between radical mastectomy and modified radical mastectomy patients was found at any stage of disease. Also, there was no statistically significant difference in the incidence of local recurrence in patients with stage I and stage II disease treated by modified. However patients with stage III disease treated by modified radical mastectomy or by radical mastectomy had a significantly greater incidence of local recurrence, particularly if axillary lymph node metastases were present.

(3) Extended Radical Mastectomy

Donegan W.L. 1984 stated that the internal mammary lymph nodes are frequently involved when axillary nodes contain metastases and when tumours lie medially or centrally in the Breast.

Meier P. et al 1985 reported that 28% of the patient with central or medial tumours had internal mammary involvement compared to 22% of patient with lateral tumours.

The rational for extended radical mastectomy in which we removed internal mammary lymph nodes in addition to structure removed in the standard radical mastectomy. Removal of internal mammary lymph nodes is done either as an en-bloc in continuity intra pleural disection with radical mastectomy or as a discontinuous extrapleural procedure.

Extended radical mastectomy is used in patient with invasive breast cancer in medial quadrant or centrally in the Breast. With or without evidence of axillary node metastases. However in medial tumours less than 1 cm in diameter and a clear axilla. A complete modified radical mastectomy is done with extrapleural biopsy of the first three interspace levels of internal mammary nodes if these nodes are clear, no further surgery is performed but if they are involved the procedure is immediately converted into

extended radical mastectomy. Deemarki L. Y. and Seleznev I.K., 1984 said that parasternal lymph nodes are closely connected with the paratracheal and tracheobronchiol lymph node and the liver through direct lymphatic duct within the coronary ligament and thymus. These anatomical condition which allow extension of the tumour cells to supraclavicular lymph nodes, liver and other organs of the thorocic cavity. This explain why distant metastases occur up to 21% more often in patient with tumours of central and medial origin.

There is a controversy for dailing with internal mammory lumph nodes metastes.

Donegan W. L., 1984) said that parasternal nodal metastes are only begining to be appreciated as an indication for adjuvant systemic chemo therapy.

The majority of surgeons nowdays treat the internal mammary node by aggressive irradiation in the range of approximately 5000 rads.

Lastly the extended radical mastestomy have a very high mortality rate.

Donegan W.L., 1984 reported that between 1963 and 1968 an internatinal group of five treatment centers, i.e., Lima, Milan, Rome, Villejuif, and Warsaw collected 1580 cases of breast cancer to answer the question whether routine excision of internal mammary lumph nodes improved the prognosis of