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Conventional Surgical Techniques for Breast Cancer with special reference to important anatomical landmarks

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Abstract: Inspite of various developments in the diagnostic and therapeutic modalities in breast cancer, patients in developing countries continue to present at a locally advanced stage and therefore are subjected to the routine protocol of neoadjuvant chemotherapy followed by modified radical mastectomy and subsequent adjuvant therapies. Various surgically relevant technical and anatomical aspects need to be emphasized in the overall management of breast cancer.

Keywords: *Modified radical mastectomy,*

Surgical technique for modified radical mastectomy (MRM):

MRM includes removal of breast along with nipple areola complex, pectoral fascia and axillary tail of Spence along with all the three levels of axillary lymph nodes (i.e. level-I lateral to pectoralis minor, Level-II behind the Pectoralis minor and level-III medial to Pectoralis minor muscle)

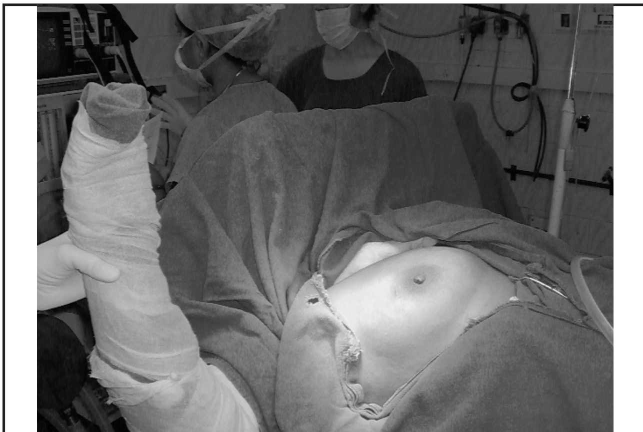

Fig.1: *The position of the patient => sand bag under the right shoulder with right arm draped separately.*

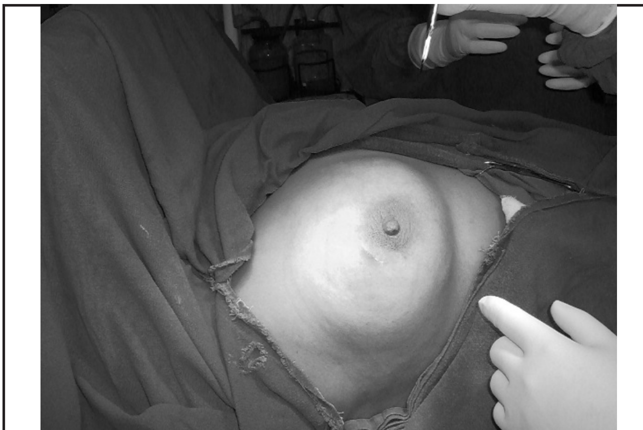

Fig.2: *A patient with a lesion in the right breast (T3N1M0) being subjected to MRM after having received neoadjuvant chemotherapy with CAF regime.*

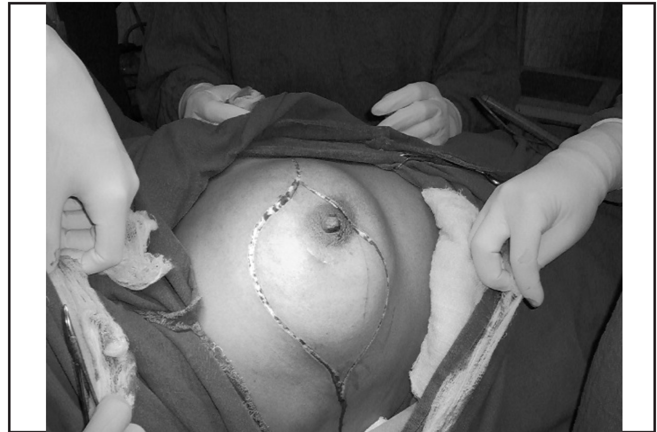

Fig.3*: The incision should preferably be transverse in order to avoid the contracture across the shoulder. The optimum margin should be 2.5cm from the tumour*

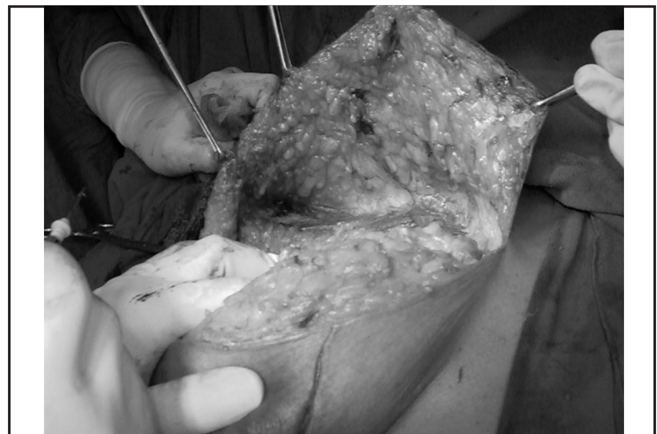

Fig.4: The upper and lower flaps are raised and should not have any breast tissue on them. The weight of the breast provides the required traction for medial dissection, if performed first. More than thickness of the flap, it is vital to proceed between the breast fat globules and the subcutaneous fat (subcutaneous fat has smaller globules of fat)

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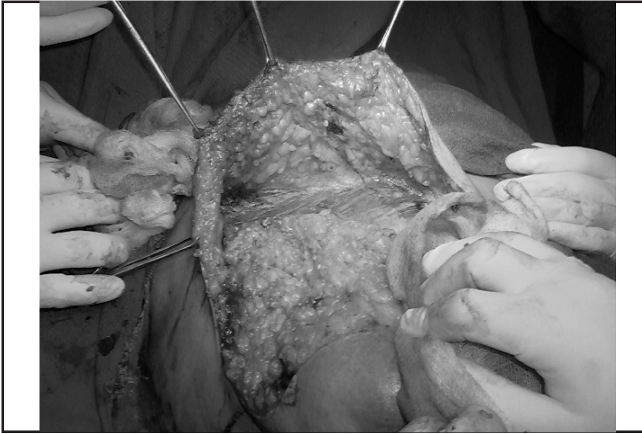

Fig.5: The pectoralis major muscle fibers should be laid bare as the deeper limit of resection is the pectoralis fascia

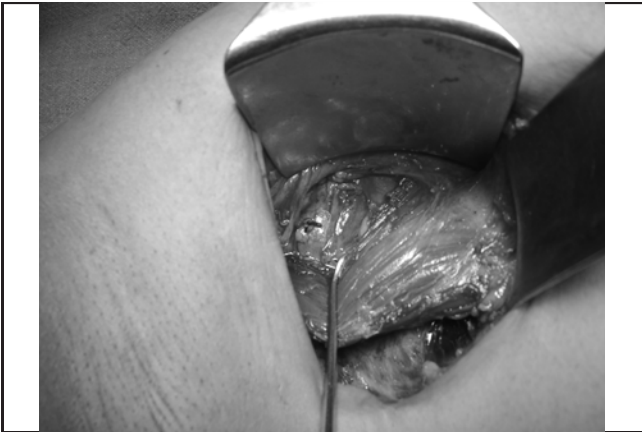

***Fig.6 (a):** Level-III may be cleared by retracting the pectoralis minor muscle also (Auchinclauss)*

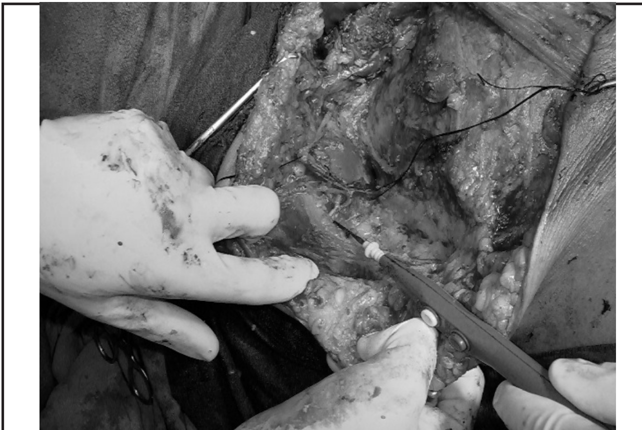

***Fig.7:** The medial limit of axillary dissection is the Hallstead's ligament or the costoclavicular ligament; the superior limit being the axillary vein, the lateral limit is taken as subscapular vein including the thoracodorsal pedicle. The lower limit of axillary dissection is taken as "Angular vein" which has been found to be a relatively fixed landmark and drains in to the thoracodorsal vein. The aim in a classical axillary dissection therefore is to have the triangle of axillary vein, subscapular vein and Hallstead's ligament completely cleared off all the lymphatic and fatty tissue preserving the axillary vein, pectoralis major muscle, nerve to serratus anterior and thoracodorsal nerve.*

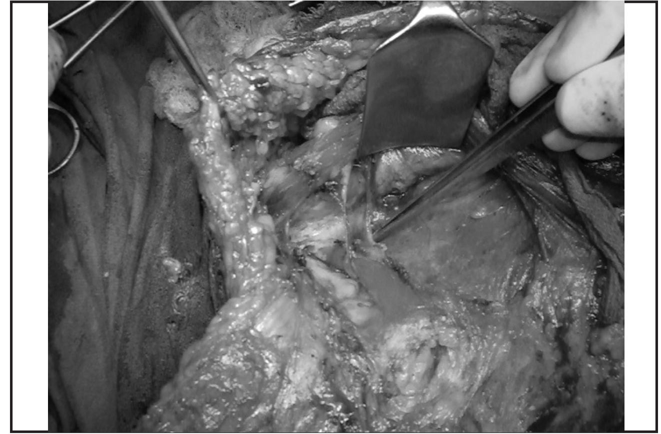

Fig.6: Axillary dissection may require the transection of Pectoralis minor to facilitate the clearance of the level-III group of lymph nodes. The medial and lateral pectoral nerves are identified and preserved (medial being lateral and the lateral being medial in real life situation).

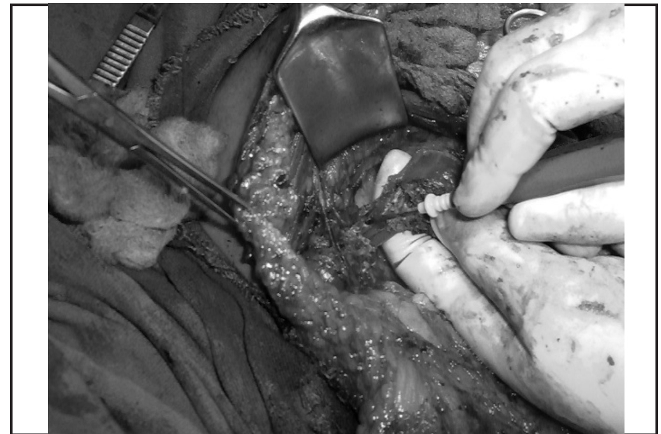

Fig 6 (b): Level III may also be cleared by transecting the pectoralis minor muscle (Sinclair)

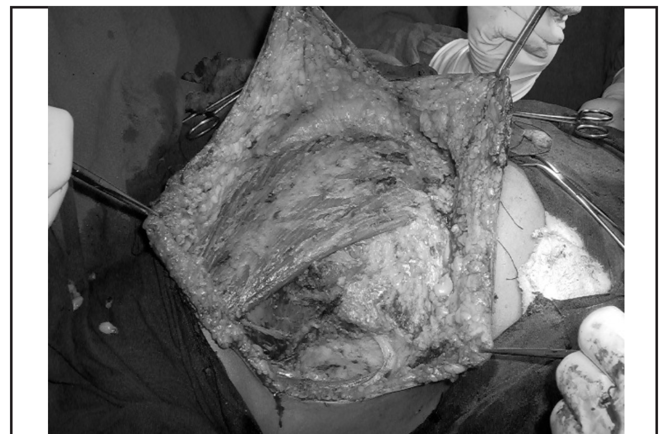

***Fig 7 (a):** The flaps being demonstrated before closure of the incision.*

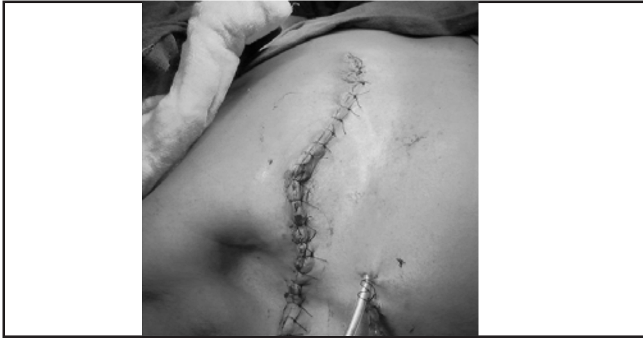

Fig.8: *The wound closed with suction drains in situ*

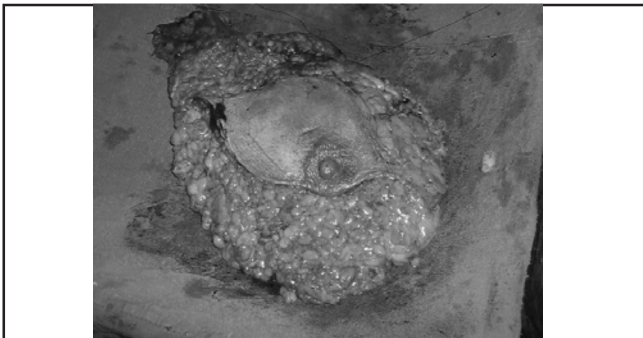

Fig 9: *The resected specimen of breast with nipple areola complex and axillary tail of Spence, pectoralis fascia, axillary lymph nodes*

The classical MRM therefore requires a thorough understanding of the surgical anatomy of this region and the important land marks in order to achieve a good oncological clearance. Angular vein has been observed to be a constant and reliable landmark as the lower limit of axillary dissection[1]. The author has also used this landmark in over 100 MRMs and found it as a reliable anatomical landmark besides the Hallstead's ligament and the subscapular pedicle. Optimum axillary dissection is mandatory in accurate staging and prognostication of the disease and adhering to a standardized protocol of surgical technique is mandatory.

The wound is closed in two layers and two suction drains in situ, one under the chest wall and the other one in the axilla. The arm strapping with axillary padding may be done for initial 24 hours, however active shoulder exercises should be encouraged thereafter .The author has recommended and published as a randomized controlled trial, the advantages of using half suction drains over full suction vacuum drains in minimizing seroma formation and reducing flap failure rates[2].

References:

1. C. -Y. Chan, M. Tan. Spatial relations of the angular vein, an important landmark in axillary nodal dissection) *Br J Surg*. Vol 90, (**8**) Aug 2003;948-949
2. Chintamani, Vinay Singhal, Anju Bansal, Sunita Saxena. (p.948-949). Half versus full vacuum suction drainage after modified radical mastectomy for breast cancer - a prospective randomized clinical trial [ISRCTN24484328]. *BMC Cancer*. 2005 Jan 27; 5(1): 11

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