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**DOES LYMPHOVASCULAR INVASION AFFECTS THE OUTCOME OF AXILLA DOWN STAGING IN NODE POSITIVE OPERABLE INVASIVE BREAST CANCER?**

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**Background:** The role of surgery for node positive early breast cancer treatment became a dynamic process and is changing by time. The neoadjuvant chemotherapy (NAC) is regarded as part of the standard management of node positive early breast invasive carcinoma. The NAC potentially result in complete pathological response of the axillary diseases as well as the primary breast cancer. Many approaches has been suggested to deal with the axilla after NAC. One of the suggestions is to avoid unnecessary axillary surgery and decrease the morbidity associated with axillary node clearance (ANC). In patients with early invasive breast cancers suitable for neoadjuvant chemotherapy and surgery, a number of prognostic indicators have been investigated. The identification of a such prognostic factors and parameters predictive of responsiveness to specific treatment modalities represents a major challenge in breast cancer management. Inflammatory breast cancer, is known as the most aggressive form of breast cancer, is characterized by extensive lymphovascular invasion and poor prognosis. LVI shows a close relationship with poor prognostic indicators as tumour histological grade, and lymph nodes involvement. The question here is – presence of lympho-vascular invasion in node positive early breast cancer affects the outcome of axillary disease down staging the axilla after NAC?

**Material and methods:** A single institutional retrospective database review identified 54 patients with operable node positive early breast cancer. The node status has been confirmed by core biopsy or radio-colloid assisted sentinel lymph node biopsy. All underwent NAC in addition to trastuzumab if they are Her-2 positive. Subsequently they had therapeutic breast surgery (mastectomy or breast conservative surgery) as well as axillary node clearance (ANC). Post-operative patho-morphological analysis of the removed breast and axillary tissue has been performed.

**Results:** The age of study ranges between 32–72 years of age. The subgroup aged between 41–50 years formed the majority of cases (55%). All the 54 patients had a positive nodal disease prior to NAC, this has been confirmed in the core biopsy or sentinel lymph node biopsy. The lymphovascular invasion was detected in 72%. Complete pathological response seen in only 27% of the study group in total, all those patients are LVI negative. Incomplete response was seen in 72%, 40% of patients are LVI positive with incomplete response, where 30% are LVI negative with incomplete response.

**Conclusion:** After NAC, the nodal pathological response of the node positive disease early breast cancer is slightly superior in LVI negative patients. Complete pathological response in LVI positive patients was absent in our study group. However, the study is limited with the small sample

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**EXPERIENCE OF THE BREAST RECONSTRUCTION WITH LATISSIMUS DORSI FLAP**

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**Background:** Analysis of the aesthetic results and complications rate after breast reconstruction using the latissimus dorsi (LD) flap.

**Material and methods:** The study was conducted in "Petrov's National Medical Research Center of Oncology" in the breast tumors department for the period 2016–2017. A feature of the breast reconstruction using the LD-flap was cutting of the muscles on anterior-axillary line, prior to closure of the breast tissue defect, but retaining thoracodorsal vascular bundle. Surgical treatment was performed to 83 patients with breast cancer,

including patients after neoadjuvant therapy.

**Results:** Immediate reconstruction with breast conserving surgery was performed in 12 (14.5%) patients, with mastectomy in 7 (8.4%), with mastectomy and implant-based reconstruction in 40 (48.2%) patients. Delayed reconstruction of the breast: the LD-flap in combination with implant-based reconstruction - 19 (22.9%); the LD-flap without an implant - 5 (6.0%) patients. Complications were observed in 8 (9.6%) patients.

Postoperative complications were observed in 16 (23%) patients, lymphorrhea - 10 (14%), hematoma of the postoperative region of the back - 1 (1.4%), LD - flap necrosis - 1 (1.4%) (patient had bullous epidermolysis bullosa; there was no vascular thrombosis), necrosis of skin flaps after mastectomy - 3 (4.4%) (after RT, without loss of implants), divergence of the edges of the back wound - 1 (1.4%) (against febrile neutropenia after chemotherapy). A higher incidence of complications was noted in the implant reconstruction group. In comparison with other types of operations, the number of complications was not higher than the average indicators for this pathology.

**Conclusion:** Reconstruction of the breast using the LD-flap is the method of choice and priority for patients who underwent radiation therapy, with a lack of own tissues to cover the implant. LD-flap is a "good" plastic material and it can be used for patients with breast defect after breast conserving surgery and mastectomy. The LD-flap breast reconstruction is characterized by low complications rates. The use of LD-flap does not worsen the rehabilitation of patients and does not shift the timing of adjuvant treatment.

**Conflict of interest:** No conflict of interest.

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**NIPPLE SPARING MASTECTOMY IN BREAST CANCER: EXTENDED INDICATIONS. THE MIDDLE EAST INSTITUTE OF HEALTH EXPERIENCE**

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**Introduction:** Nipple-sparing mastectomy (NSM) is offered as a surgical treatment for breast cancer. It preserves the skin overlying the breast and the nipple areola complex. In this study, we review our experience with NSM, performed for both early and advanced breast cancer patients.

**Materials and Methods:** This is a retrospective study from October 2004 till December 2017. It evaluates the outcomes of 187 patients who underwent 243 NSMs with both immediate and delayed prosthetic breast reconstruction. Sentinel lymph node biopsy was performed for 162 patients. The oncologic and cosmetic outcomes are presented.

**Results:** In our study group, 187 patients had 243 NSMs; 55 patients had bilateral and 133 had unilateral procedures. 90 patients had invasive breast cancer (locally advanced: 32); ((Ductal carcinoma in situ (DCIS): 65). 11 patients had a history of breast cancer (invasive: 6; DCIS: 5) and presented with diffuse microcalcifications (5), atypical ductal hyperplasia (5) and typical ductal hyperplasia (1); 8 patients had a history of previous mastectomy; 12 patients were BRCA-1 positive. Sentinel lymph node was positive in 39 patients; 17/58 patients with invasive cancer, 2/65 patients with DCIS, 20/32 patients with locally advanced breast cancer (LABC) post neoadjuvant chemotherapy. They received axillary dissection. 52 patients received adjuvant chemotherapy, radiation, or both for their first breast cancer 2 to 7 years before their NSM (radiation to ipsilateral or contralateral breast: 10) post NSM, 14 patients received radiation therapy, 32 patients received adjuvant chemotherapy. The average tumor size; invasive cancer: 1.8 +/- 0.6 cm and locally advanced breast cancer: 4.5 +/- 1.7 cm. The age range was 22–81 years. Local recurrence: 4 patients, 11 patients had distant metastases.

**Complications:** 29 patients had wound infection and/or partial nipple necrosis that recovered on conservative therapy; nipple-areola complex necrosis with removal of the prosthesis: 12; contracture of the capsule: 4. Three patients had a positive retroareolar biopsy and NAC was removed. No patient had a breast implant associated -anaplastic large cell lymphoma

(BiA-ALCL), Immediate implant reconstruction 239; early-delayed reconstruction 14. No patient was lost to follow-up.

**Conclusion:** NSM can be offered to patients with early and advanced breast cancer. It is oncologically safe and offers a superior cosmetic result than the standard mastectomy.

**Conflict of interest:** No conflict of interest.

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### PROPHYLACTIC MASTECTOMY IN HIGH RISK WOMEN WITHOUT ANY KNOWN GENETIC MUTATION

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**Background.** The definition of high-risk patients remains controversial, including both mutation carriers and patients with evident familial history even in the absence of pathognomonic mutations. Thanks to the “Angelina effect”, the prophylactic surgery underwent a considerable increase in recent years. The objective of our study is to evaluate the outcome of high-risk patients operated of prophylactic mastectomy.

**Materials and methods.** We retrospectively collected clinical data on all patients operated at their breast from 2002 to 2017 in our Breast Unit. We then divided the patients into three groups: low-risk patients, high-risk patients carrying a gene mutation (BrCa1, BrCa2, p53 or other) and high-risk patients without gene mutations (i.e. important familiarity but negative genetic test).

**Results.** During the considered period, we performed 4859 breast interventions. In about 12% of cases familiarity for breast cancer was reported, and in about 2.5% the criteria for genetic testing were met. The genetic test resulted negative for mutations in 25% of cases, positive for mutations recognized as predisposing to breast cancer in 67% of cases, and positive for mutations of uncertain significance in 8% of cases. 75% of the high-risk patients underwent prophylactic mastectomy, including 98 women with a recognized gene mutation and 5 non-mutated. Prophylactic surgery was performed at a median distance of about 12 months from the previous breast oncological intervention, and in about 30% of patients a consensual bilateral prophylactic oophorectomy was also performed. The incidence of complications was 21%, none of which required re-operation. At a median follow-up of 36 months, all patients undergoing prophylactic surgery are alive, healthy and disease-free, with an aesthetic result that is objectively and subjectively very satisfying.

**Conclusions.** Despite the prevalence of hereditary carcinoma in the literature of about 5%, in our population the familial history managed to identify about half of the expected cases (2.5%), and among these, the genetic test resulted positive in about two thirds of cases. Considering the overall and disease-free survival of women undergoing prophylactic surgery, and also taking into account the excellent aesthetic results obtained by the nipple-sparing mastectomy technique, prophylactic mastectomy results a safe and effective preventive intervention in reducing the breast cancer risk in high-risk patients, and should also be offered in selected cases in patients with a negative genetic test or mutations with uncertain significance.

**Conflict of interest:** No conflict of interest.

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### RETROSPECTIVE STUDY OF CLINICO-PATHOLOGICAL FEATURES OF BREAST CANCER PATIENTS IN YOUNG WOMEN (<40 YEARS AGE) REPORTED AT MALABAR CANCER CENTRE

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**BACKGROUND:** Differences in the clinical and biological characteristics between young and older breast cancer patients have been observed in many cancer centres. Breast cancer in younger women may be more aggressive in their behaviour and more advanced at their initial presentation in younger patients. There is a paucity of data on breast cancer in younger women in India. The literature from the Indian subcontinent in this regard is scanty, and therefore in this study we particularly focused on the clinical, biological behavior of breast cancer in younger

women.

**MATERIALS & METHODS:** Breast cancer patients reported at Malabar cancer centre(MCC) from January 2012 to December 2016 were part of the study population. Retrospective analysis of hospital records of all young (<40yrs) breast cancer patients was done. The list of patients with mentioned inclusion criteria was obtained from the Department of Cancer Registry. Demographic details like age at diagnosis, age of menarche, parity, family history of cancer, Body Mass Index was collected. Stage of tumor, Type of surgery, histology of the tumor, Hormonal receptor status and HER2neu receptor status was also collected from the records. Pretreatment Neutrophil-Lymphocyte Ratio and Platelet-Lymphocyte Ratio was also calculated.

**Inclusion Criteria** - All female patients diagnosed and treated with breast cancer from January 2012 to Dec 2016.

**Exclusion Criteria** - Male breast cancer, Patients operated outside MCC. The data was analyzed using tables and percentages using SPSS.

**RESULTS:**

- 1 252 patients were registered. Mean age was 36 years. 17.5% were nulliparous.
- 2 Body Mass Index-The Mean was 36.09 kg/sq metre. There was no correlation between Pretreatment Body Mass Index with Nodal Metastasis.
- 3 Stage II was the most commonly reported at 49.6% (125 patients).
- 4 Pretreatment Neutrophil Lymphocyte Ratio(NLR)-The Mean was 2.3. There was no correlation between NLR and Nodal Metastasis.
- 5 Pretreatment Platelet Lymphocyte Ratio(PLR) -The Mean was 123.28. There was no correlation between PLR and Nodal Metastasis.
6. Hormone Receptor Status -78 patients (31%) were Triple Negative Breast Cancers.
- 7 The most common site of recurrence was Contralateral Breast followed by Bone and Liver.

**Conclusions:** This is probably first Indian study that has not missed important factors like Nulliparity, Family history, Body Mass Index, Markers of systemic inflammation and Types of surgical intervention & Pattern of recurrence. Unlike other cancers like prostate, esophagus and lung, there was no significant association between pretreatment NLR, PLR and BMI on the nodal or distant metastasis in young (<= 40 yrs) breast cancer patients. High grade (2 & 3) are more in young patients. Annual Mammogram should be used judiciously to reduce the burden in the form of cost to the hospital and anxiety to the patient.

**Conflict of interest:** No conflict of interest.

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### THE RELATIONSHIP BETWEEN CARDIAC DOSIMETRY AND TUMOUR QUADRANT LOCATION IN LEFT SIDED WHOLE BREAST AND CHEST WALL RADIOTHERAPY FOR ADJUVANT BREAST CANCER

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**Background:** Adjuvant radiotherapy is indicated in breast cancer patients who have undergone breast conservation surgery and in high-risk mastectomy patients to decrease the incidence of local-regional recurrence and improve overall survival. This is not without risks because of cardiac exposure especially in left sided cancers. Though there have been studies looking at cardiac doses, there is little data correlating doses to the breast quadrant treated. This could have implications in clinical practice in terms of radiation planning and patient counselling. Our study aims to