

(وقُلْ عَسَى أن يَهْدِيَنِ رَبِّي لأقْرَبَ مِنْ هَذَا رَشَدا)

سورة الكهف الآيـه رقم24

Oncoplastic Breast Surgery is the state of art of modern breast surgery (SOC) experience

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Historical overview of breast cancer

Breast cancer history dates back to around 1,500 years B.C. Ancient Egyptians were the first to report the disease more than 3,500 years ago.

Hippocrates, the father of Western Medicine, described breast cancer as a humoral disease.

(Ebeid, 1999). Egyptian Medicine in the Days of the Pharaohs. General Egyptian Book Organization, Cairo, Egypt.





Epidemiology

Incidence of breast cancer:

Breast cancer is the most common site specific cancer in women and is the second leading cause of cancer related deaths in women aged 20 to 59 years.

It accounts for 26% of all newly diagnosed cancers in females and is responsible for 15% of the cancer related deaths in women.

The probability that a woman in the US would develop breast cancer during her life time was estimated to be 1 in 8. *(American Cancer Society, 2015).*

In Egypt, breast cancer is the most common cancer among women, representing 19% of total cancer cases (38% in women) with an age adjusted rate of 49.6 per 100 000 population .

(Elsheshtawy et al. MOC 2014) (Based on NCI cancer registry) (Gharbiah 2007 cancer registry) (National cancer registry program of Egypt with estimated incidence of the disease 2008- 2050)

Surgical management of breast cancer

Surgical ttt of breast cancer had gone through several advances since the Halstedian radiacl mastectomy era in the late 19th century.



- William S. Halsted
- Halsted radical mastectomy
- Breast cancer arose in one location and spread to nearby lymph nodes and then throughout the body
- So, removal of breast, chest wall muscle, and lymph nodes was the logical treatment.

Surgical management of breast cancer

For 100 years, mastectomy was the only treatment for breast cancer. Then, during the 1970s and 1980s, prospective randomized trials confirmed survival equivalency for BCS when compared with mastectomy.

Surgical management of breast cancer has evolved significantly over the years, trending away from radical procedures, and moving towards those with complete resection of tumor while conserving breast thus decreasing patient morbidity, while maintaining equivalent oncologic safety.

Surgical management of breast cancer

The replacement of obligatory mastectomy, by wide local excision and adjuvant radiotherapy, reflected a paradigm shift in the understanding of breast cancer pathology and biology.

The combination of multimodal treatments, both locoregional, in the form of CBS and RTH, systemic endocrine treatment and chemotherapy, has resulted in reduced post-surgical morbidity without compromising oncological outcomes.

So Over time

Surgical techniques have advanced to the point where oncological safety and aesthetic outcomes are the main pillars of modern breast surgery.

Breast conserving surgery

- *To preserve the breast without sacrificing oncological outcome*

BCS= LUMPECTOMY + adjuvant RT

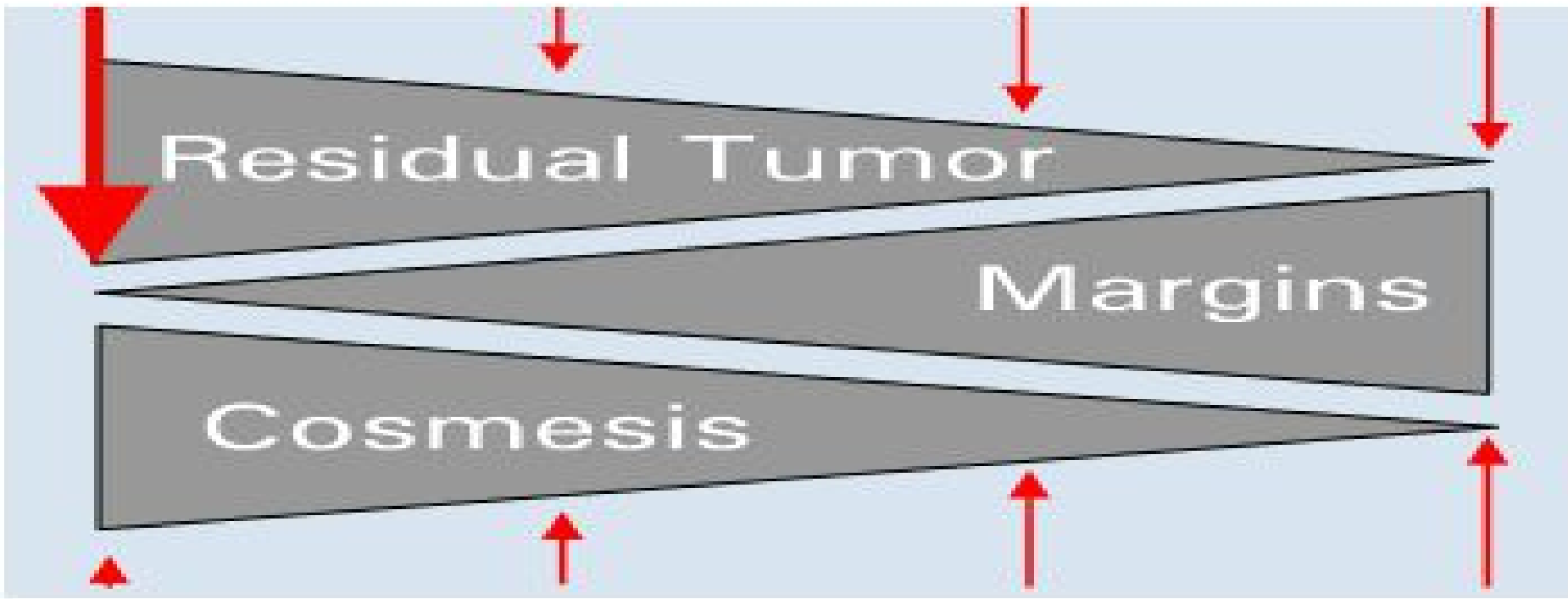
Goals of BCS

1. Cosmetically acceptable
2. Survival comparable to mastectomy
3. Low recurrence rates

Surgical management of breast cancer

In classic BCS which include lumpectomy or quadrentectomy the most important issue is that clash of interest.

Clash of interests



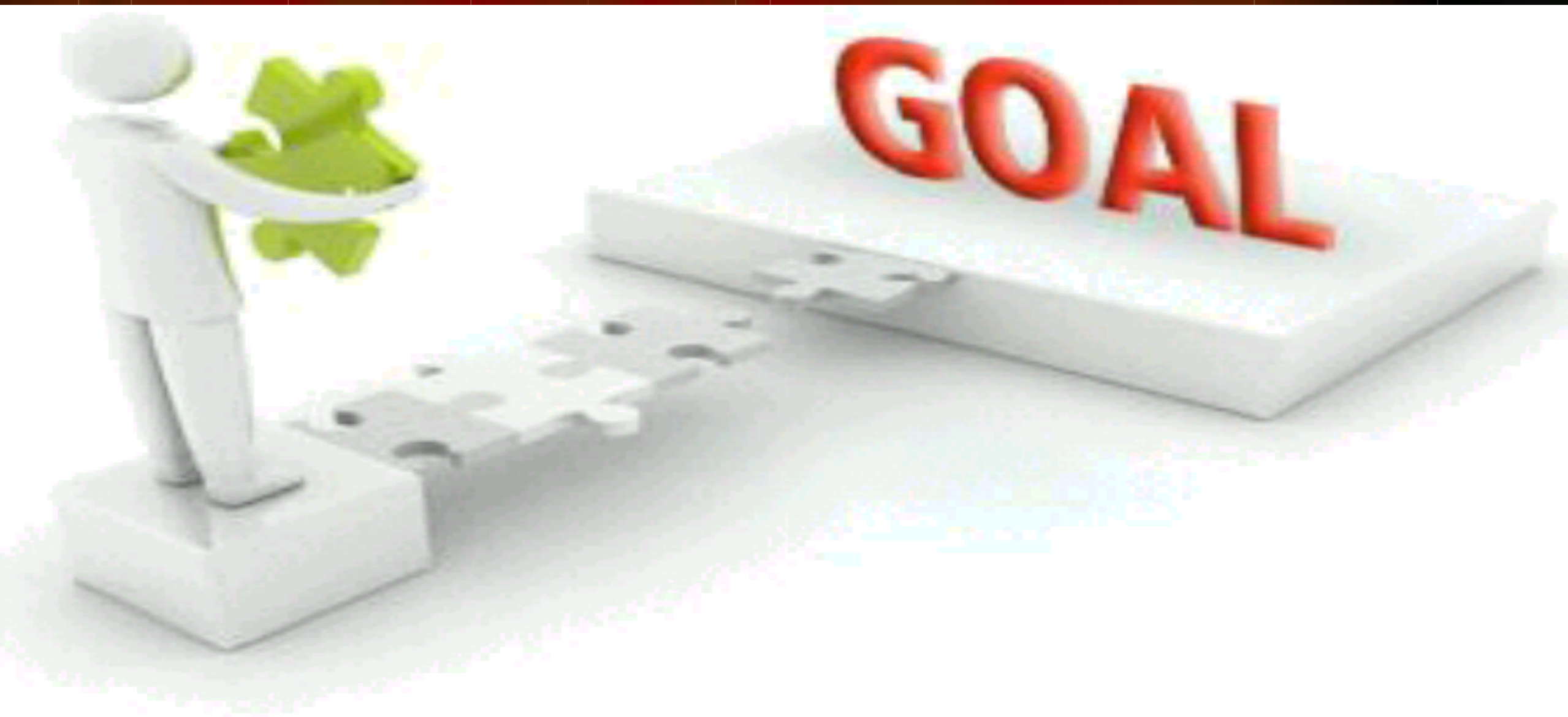
Surgical management of breast cancer

So BCS alone posses some difficulties in large or poorly located tumors (relative to breast size) in expense of margins and in those women with large and or ptotic breast which will result in bad cosmetic results, with the risk of receiving inhomogeneous doses of RTH postoperatively.

Hence the value of OBS.

Surgical management of breast cancer

The reasoning behind **OBS** is two folds, to ensure that patients are treated with **radical cancer surgery (adequate margins)** and to achieve the **best possible cosmetic results**, including a naturally shaped breast with acceptable symmetry. *(Romics et al., 2012).*



WHAT IS ONCOPLASTIC SURGERY?



Oncoplastic Breast Surgery

The term "oncoplasty" is a Greek derived word which means "moulding of tumor". Audretsch is considered by some authers as the father of oncoplastic surgery that described the technique of reconstructing a partial mastectomy defect in 1998. *(Mansfield et al., 2013).*

Oncoplastic techniques for breast conservation range from simple reshaping and mobilization of breast tissue to more advanced mammoplasty techniques that allow resection of up to 50% of the breast volume depending on patient and tumor criteria. *(Losken et al., 2014)*

Elements for Selection of the oncoplastic procedure are :

excision volume, tumor location and glandular density are the sound guideline for determining when and what type of OBS to perform. *(Rainsbury, 2007)*

LUMPECTOMY

ONCOPLASTIC SURGERY

BREAST RECONSTRUCTION

Oncoplastic Breast Surgery

Oncoplastic Classification System:

level I: Based on undermining and primary closure

Level II: Include major volume resection. Using complex procedures derived from (therapeutic mammoplasties).

(McCulley and Macmillan, 2005).

Bi-level Classification:

This guide allows for selection of the most appropriate OBS procedure

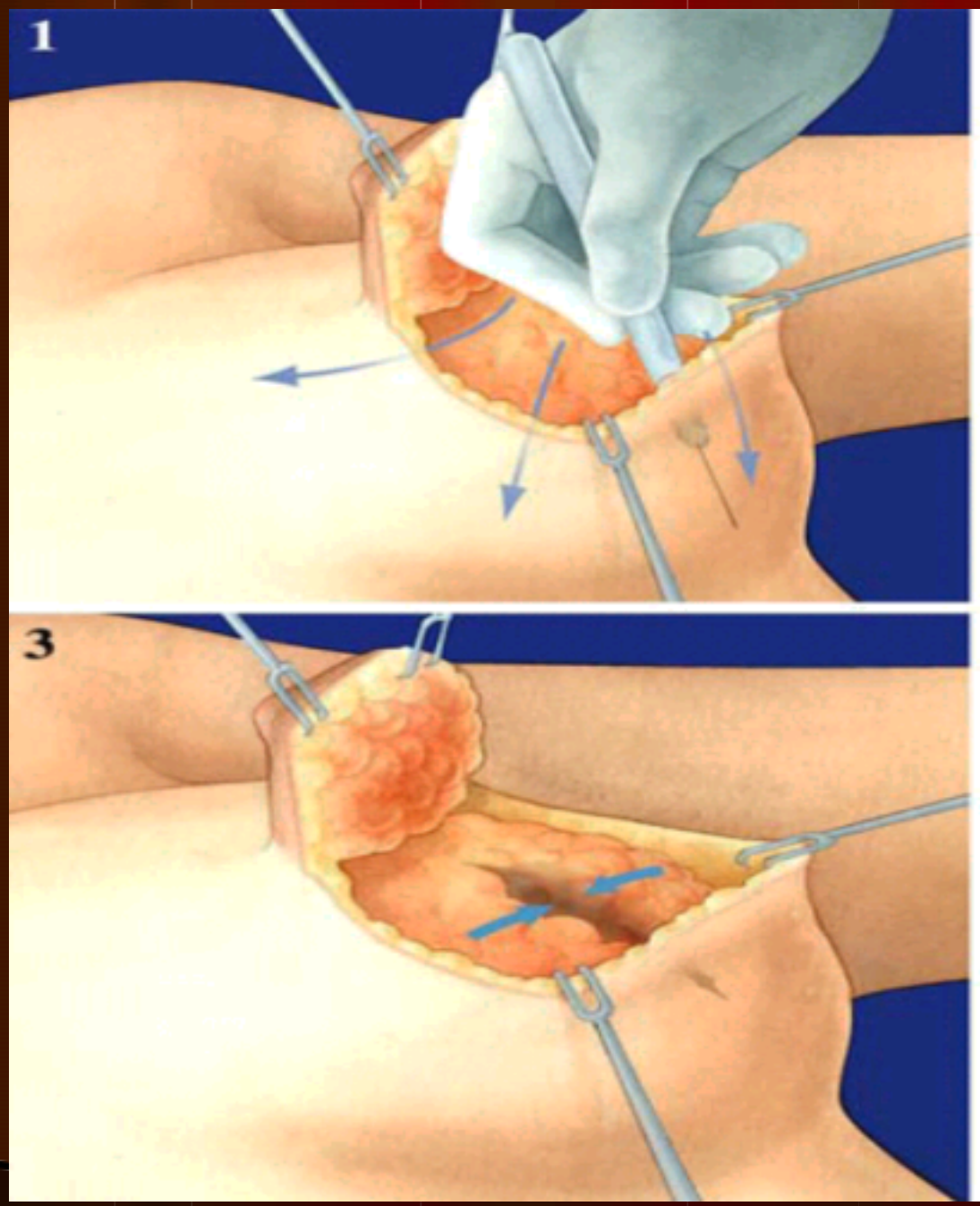
I. If less than 20% of the breast volume is excised, a level I procedure is often adequate.

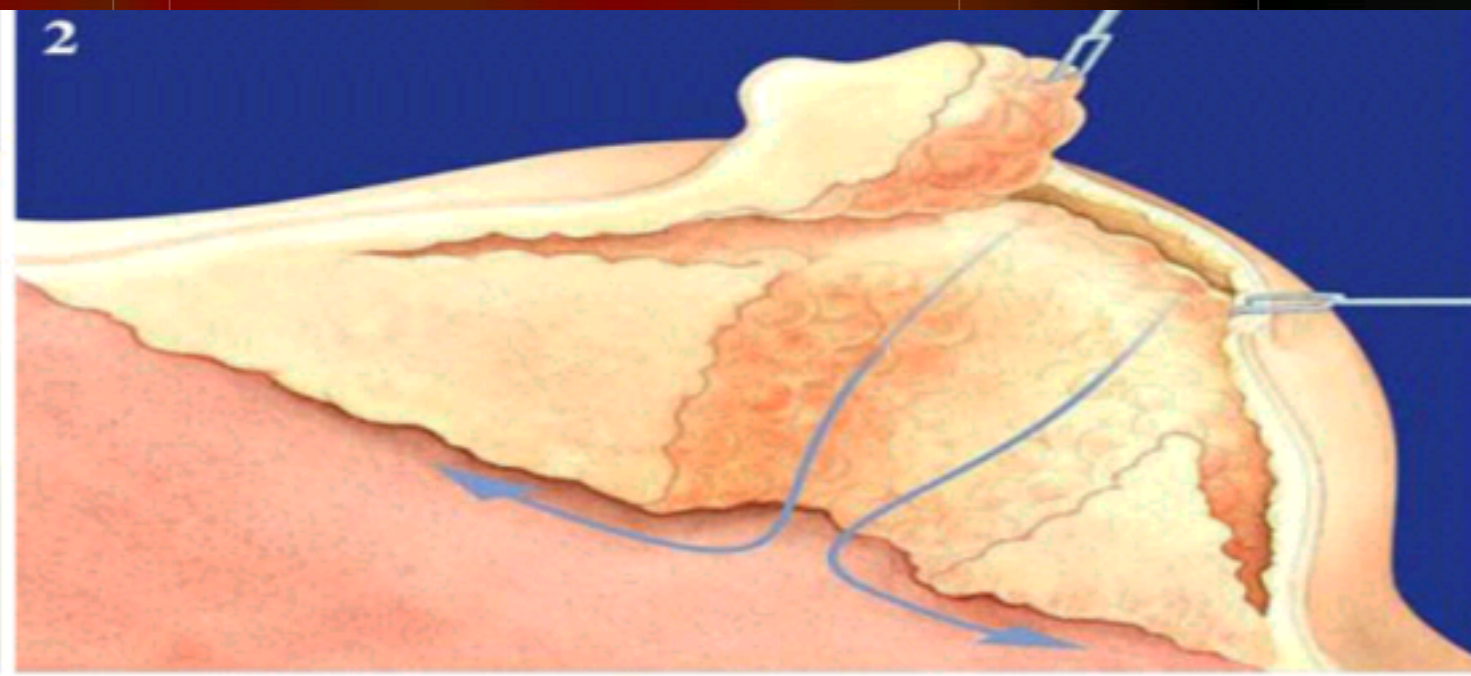
II. If 20–50% of breast volume is excised, a level II procedure is required which is based upon mammoplasty techniques and require specific training in OBS.

(Clough et al., 2010).

Oncoplastic Breast Surgery

Level I oncoplastic procedure.





(Clough et al., 2012).

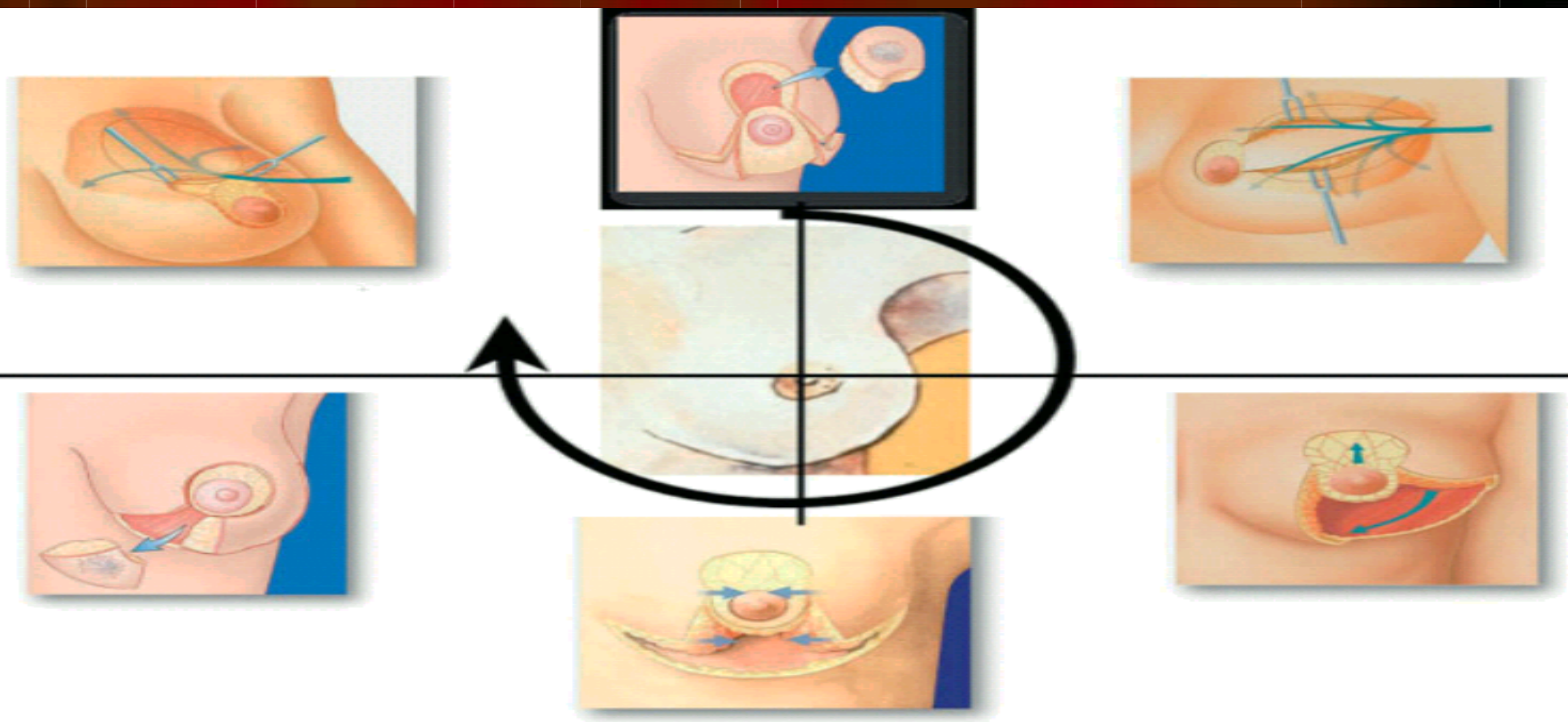
Oncoplastic Breast Surgery

In level II : marrying of extirpative surgery with aesthetic breast techniques, to get oncologically safe cosmetically sound breast.

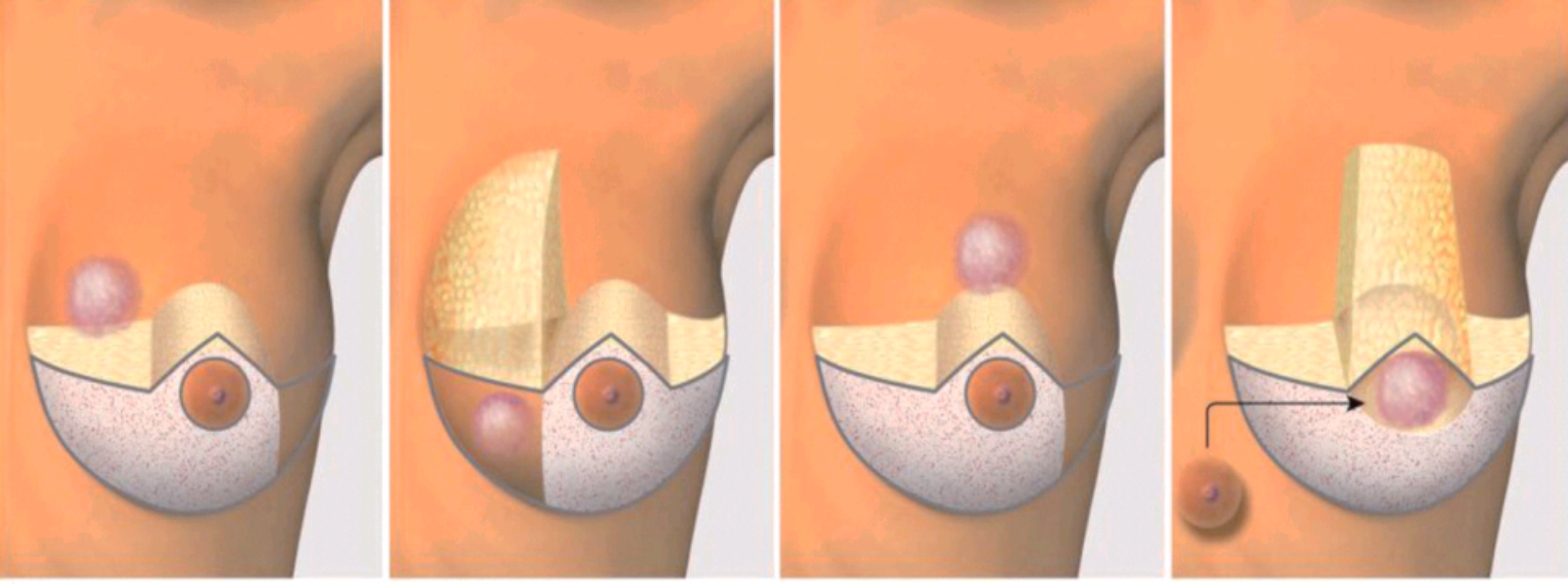
Therapeutic Mammaplasty

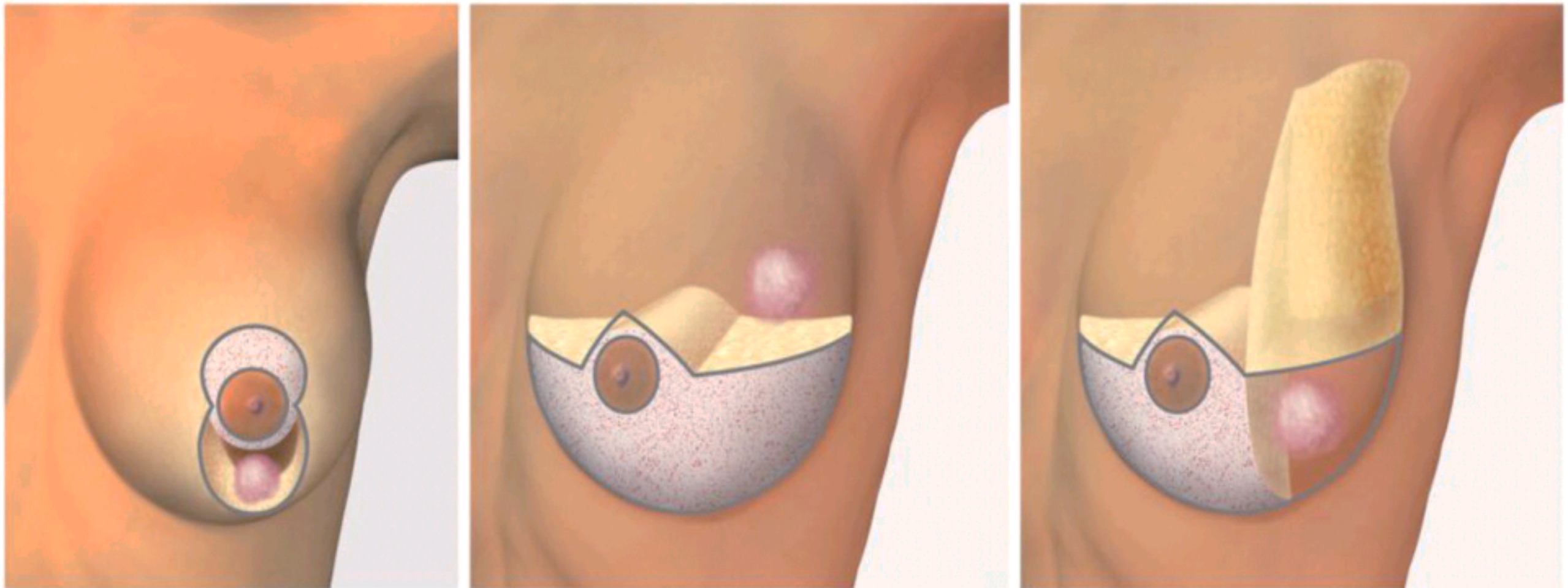
Oncoplastic Breast Surgery

Oncoplastic technique selection according to quadrant per quadrant atlas which had been derived by Krishna Clough by the year of 2010 and updated at 2012.



(Clough et al., 2012).





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ORIGINAL ARTICLE – BREAST ONCOLOGY

Improving Breast Cancer Surgery: A Classification and Quadrant per Quadrant Atlas for Oncoplastic Surgery

Krishna B. Clough, MD, Gabriel J. Kaufman, MD, Claude Nos, MD, Ines Buccimazza, MD, and Isabelle M. Sarfati, MD

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Oncoplastic Breast Surgery

Oncoplastic surgery **cannot** be a **(one-technique-fits-all)** solution. each tumor location is served by a specified technique, based on tumor size , breast size and the experience of various mammoplasty techniques.

(Clough et al., 2012).

Breast surgeon can **modify** the technique according to patient characteristics and preference and according to his own experience. *(Coates et al., 2015).*



I Small Volume
Without Ptosis
Cup Size : A/B

II Medium Volume
With/Without Ptosis
Cup Size : C

III Large Volume
With Ptosis
Cup Size : D

- **I**
  - **A** — Small defects Without distortion
  - **B** — Moderate defect Moderate distortion
  - **C** — Large defects Severe distiortion
- **II**
  - **A** — Small defects Without distortion
  - **B** — Moderate defect Small/Mod. Distortion
  - **C** — Large defect Mod/severe distortion
- **III**
  - **A** — Small defect Without distortion
  - **B** — Moderate defect Small distortion
  - **C** — Severe defect Mod/severe distortion

Bra size

32A 32B 32C 32D 34A 34B 34C 34D 36A 34DD 36B 36C 36D 36DD 38B 38C 38D 38DD 40B 40C 40D 36E 38E 40DD 38F 40E 40F

% Breast excised

25
20
15
10
5
0

Volume Replacement

Therapeutic Mastopexy

Therapeutic Reduction Mammaplasty

Simple Wide Local Excision

200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500

Volume of breast (cm^3)

5
4
3
2
1

Tumour diameter (cm)

The Breast Journal

ORIGINAL ARTICLE

Extreme Oncoplasty: Breast Conservation for Patients Who Need Mastectomy

Melvin J. Silverstein, MD,*,† Nirav Savalia, MD,*,† Sadia Khan, DO,*,† and Jessica Ryan, MD*,†

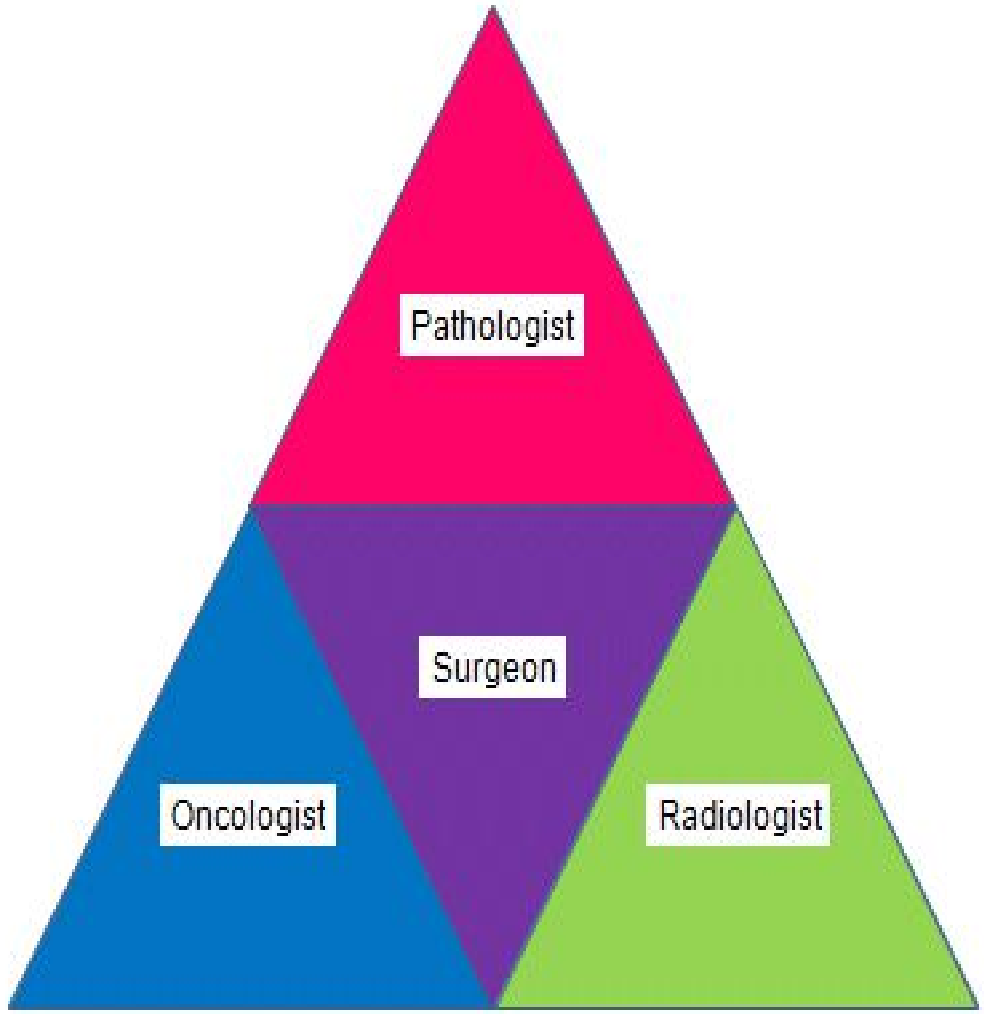
*Hoag Memorial Hospital Presbyterian, Newport Beach, California; †Department of Surgery, Keck School of Medicine, University of Southern California, Los Angeles, California

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The Breast Journal, Volume 21 Number 1, 2015 52–59

Steps of (OBS)

Management of breast cancer is a matter of a multidisciplinary approach that requires a harmony of a coordinated team of surgeon, medical oncologist, radiotherapist, radiologist and pathologist.





Review of OBS steps

History, initial diagnosis and metastatic work up including biological diagnosis to classify patients according to luminal type and risk.

Small MDT discussion pannel individualized to each patient.

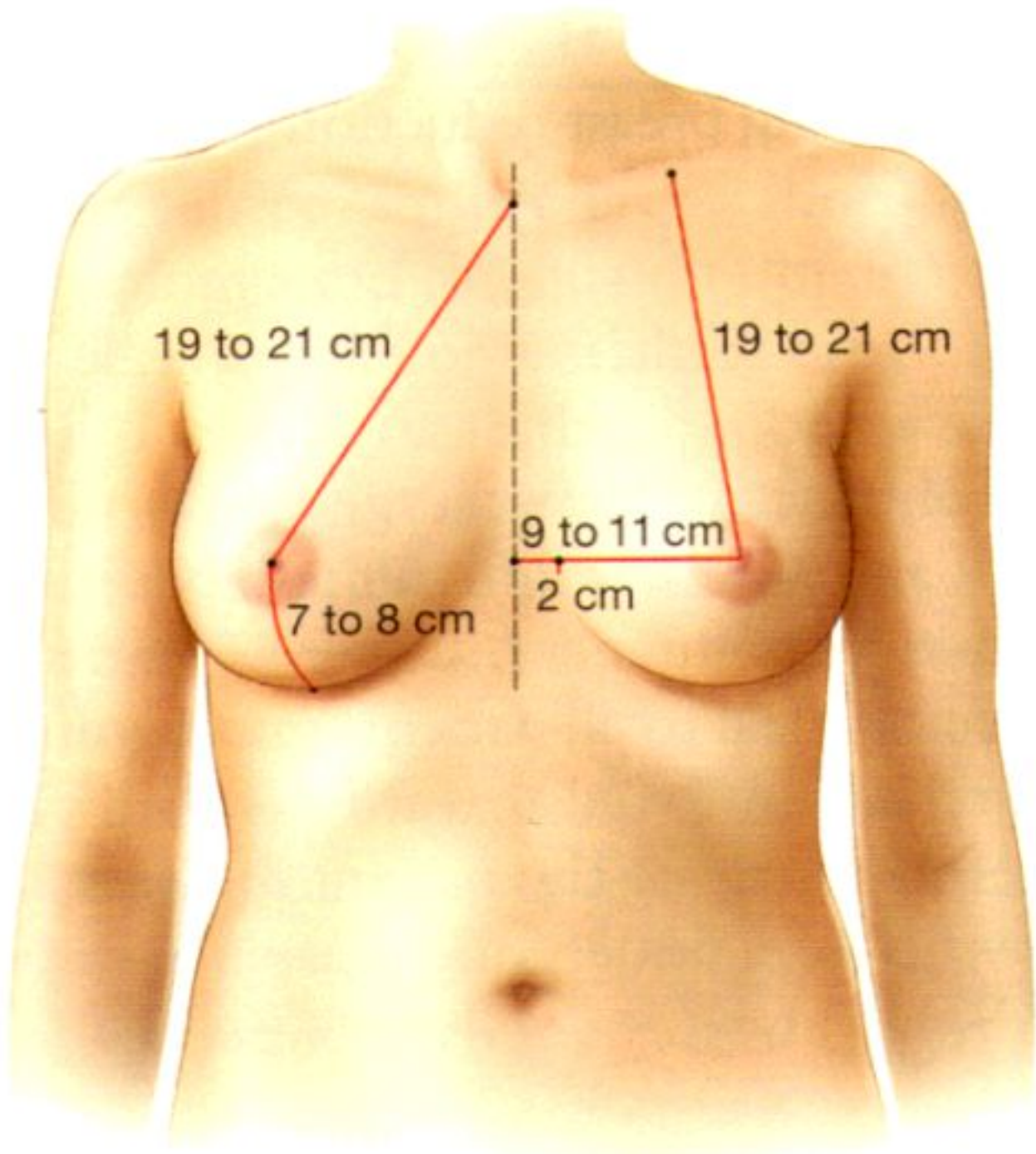
Discussing the surgical options with the patient to tailor the procedure according to, tumor site and size, breast size, her preference, possible contralateral symmetry and finally according to experience and available resources.

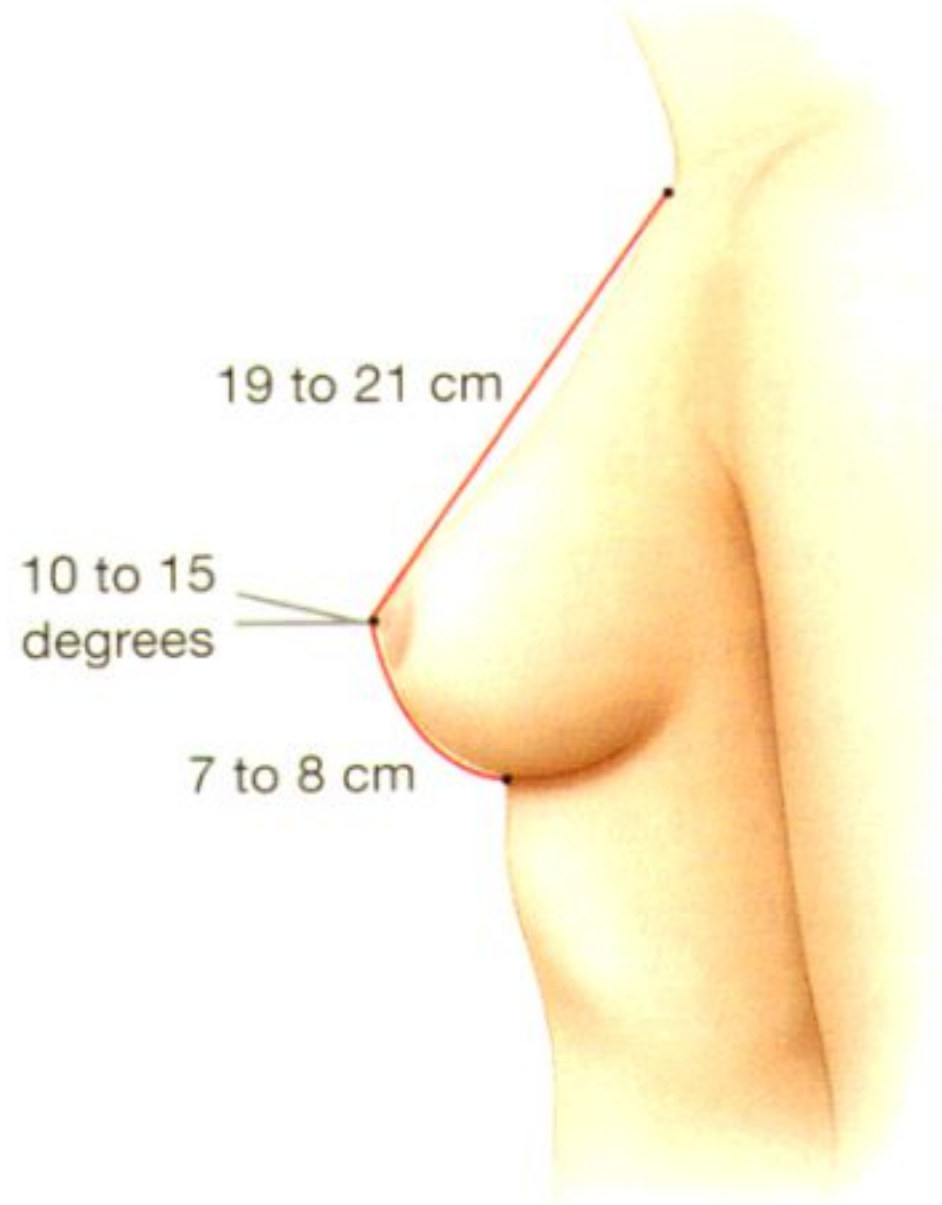
Helping each patient to be fully aware about her own journey of treatment, possible neo-adjuvant, surgery, adjuvant and follow up

Then going through surgery according to the planned design.

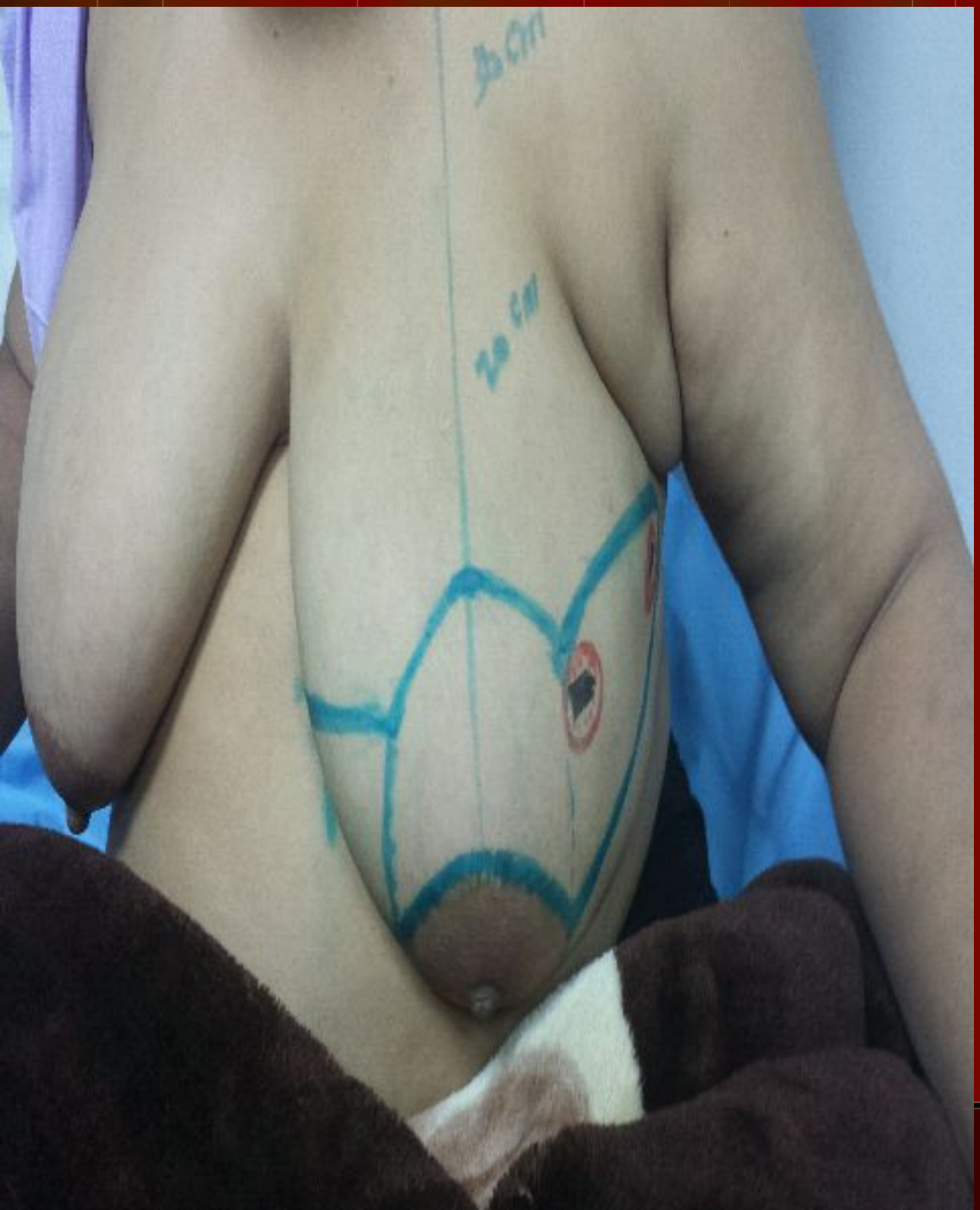
The first step is preoperative marking and drawing the planned design according to the normal measurement of the breast and with determining the resected area, depending pedicle and future NAC position.

OBS steps (normal measurements)





Preoperative drawing of batwing reduction mastopexy technique.





Preoperative drawing of batwing reduction mastopexy technique.





Preoperative drawing of round block (Benelli) technique.

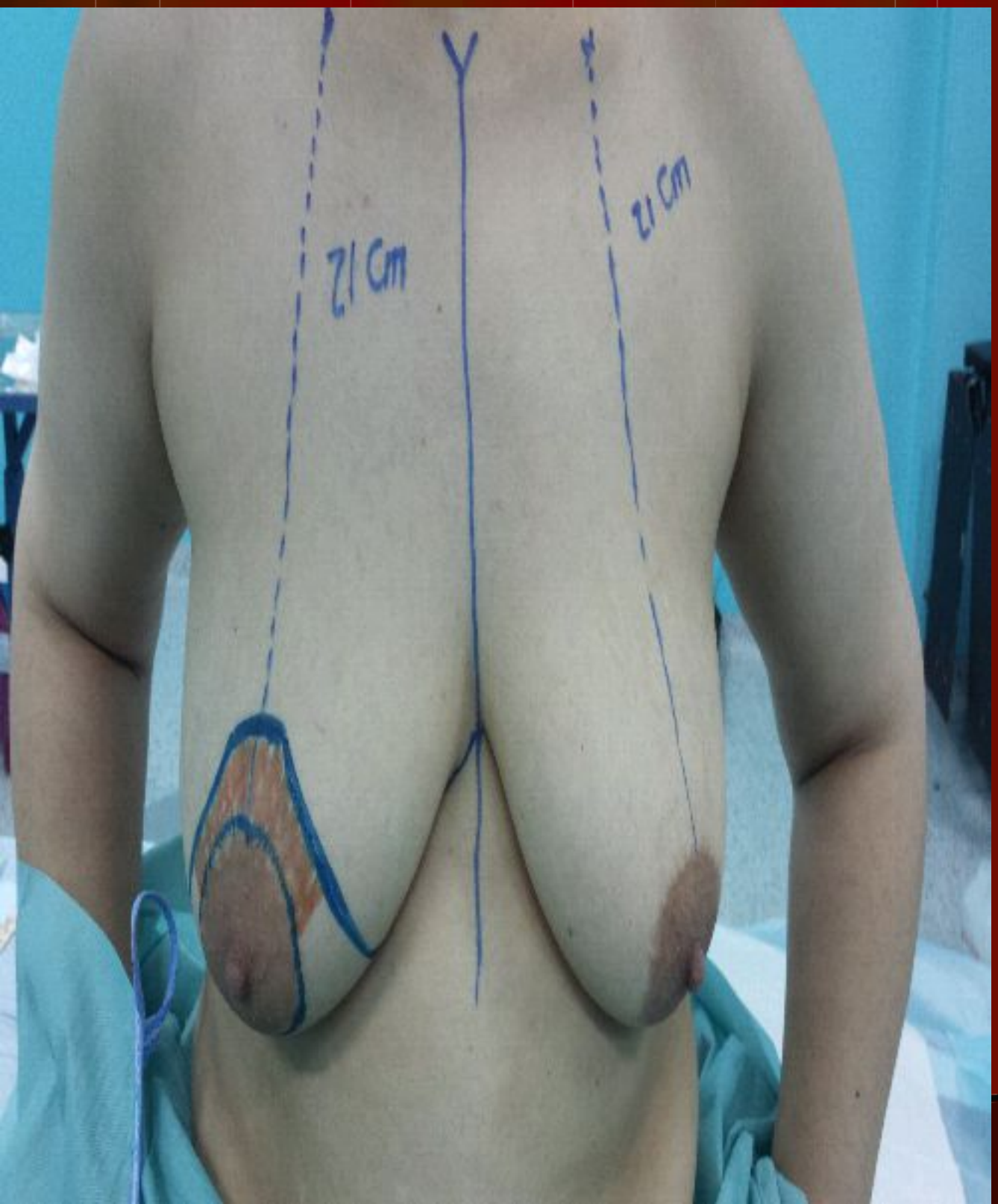




Preoperative drawing of round block (Benelli) technique.

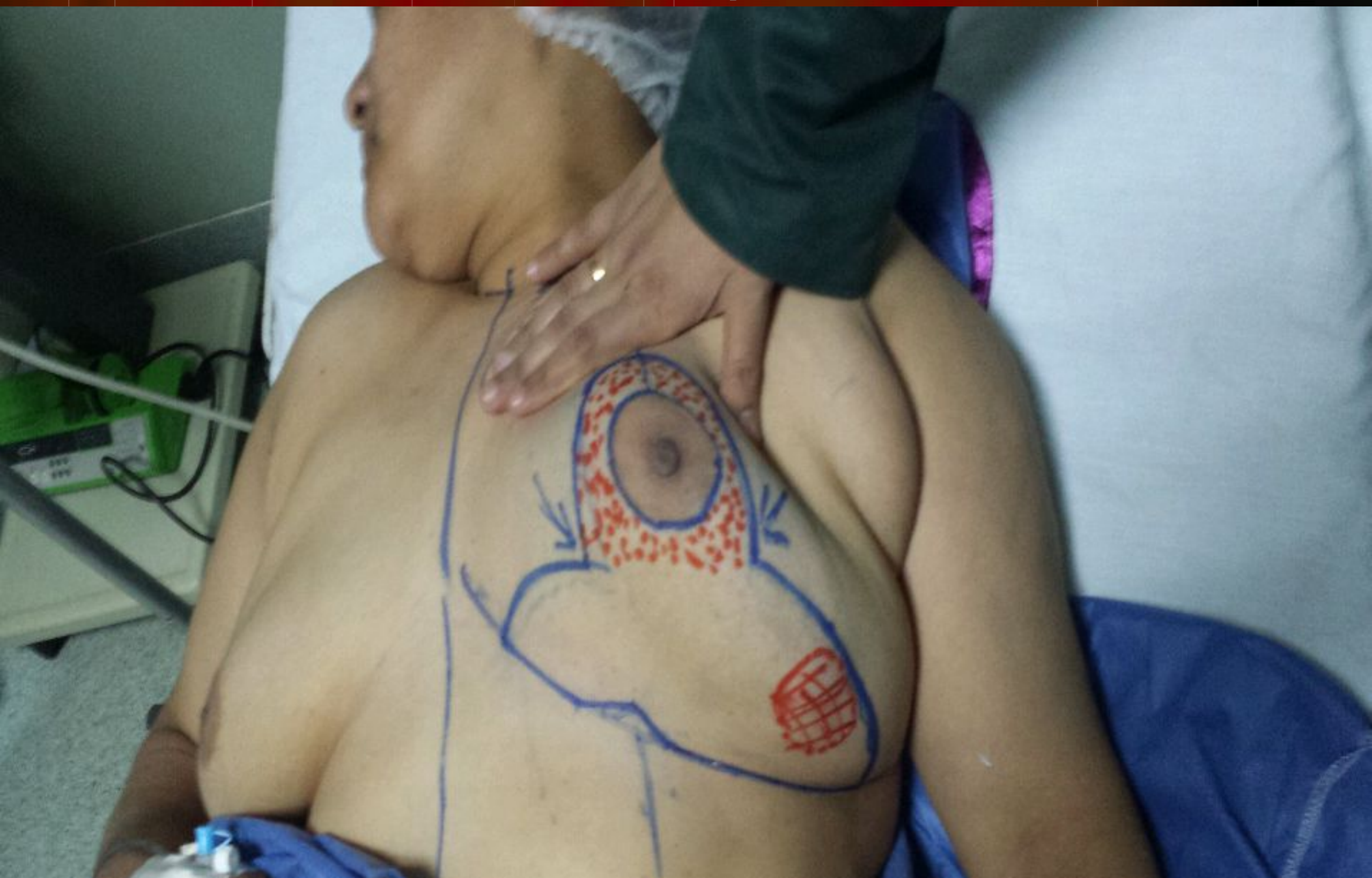


Preoperative design of inverted T (wise pattern) technique.



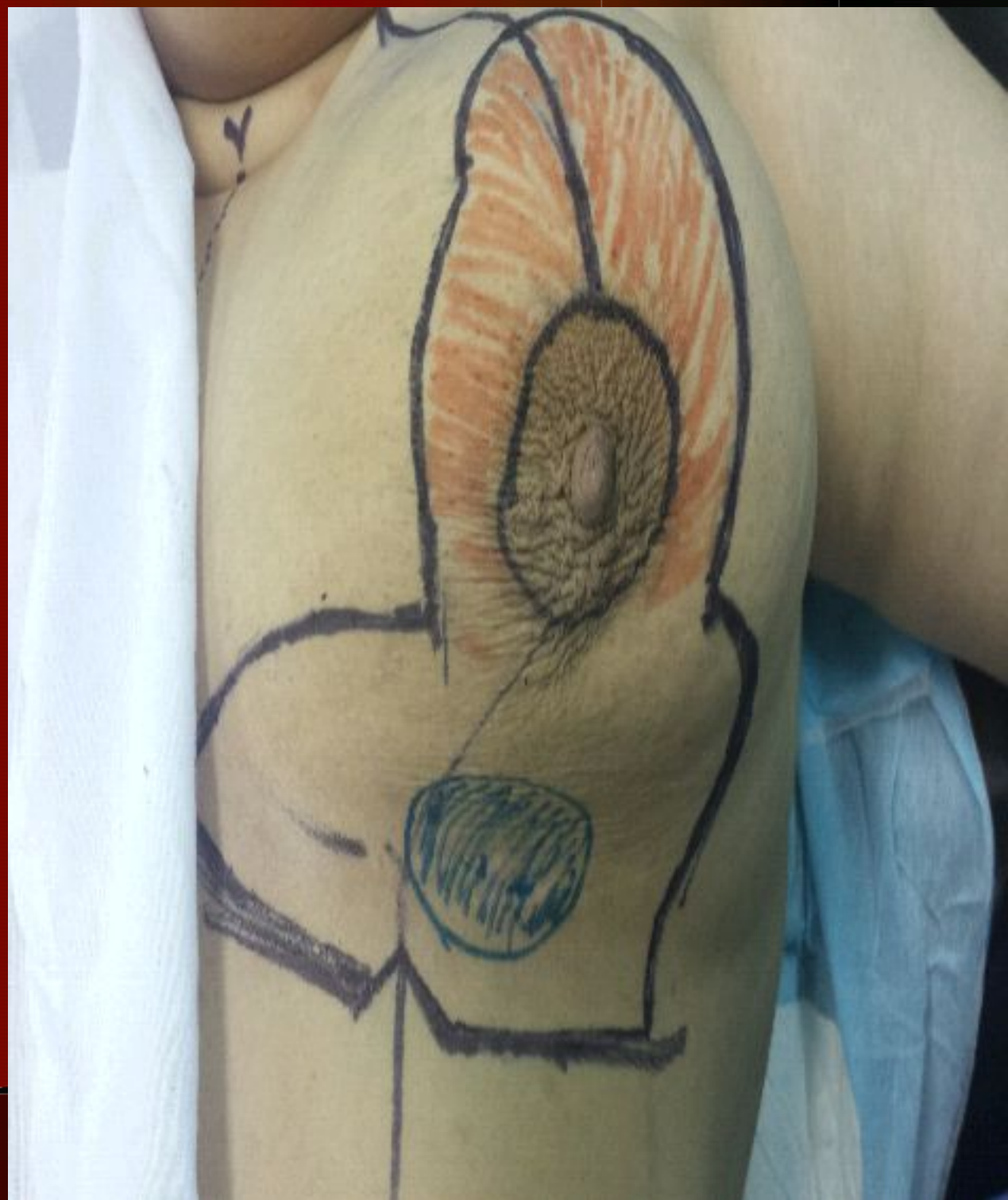


Preoperative design of inverted T (wise pattern) technique.



Preoperative design of inverted T (wise pattern) technique.

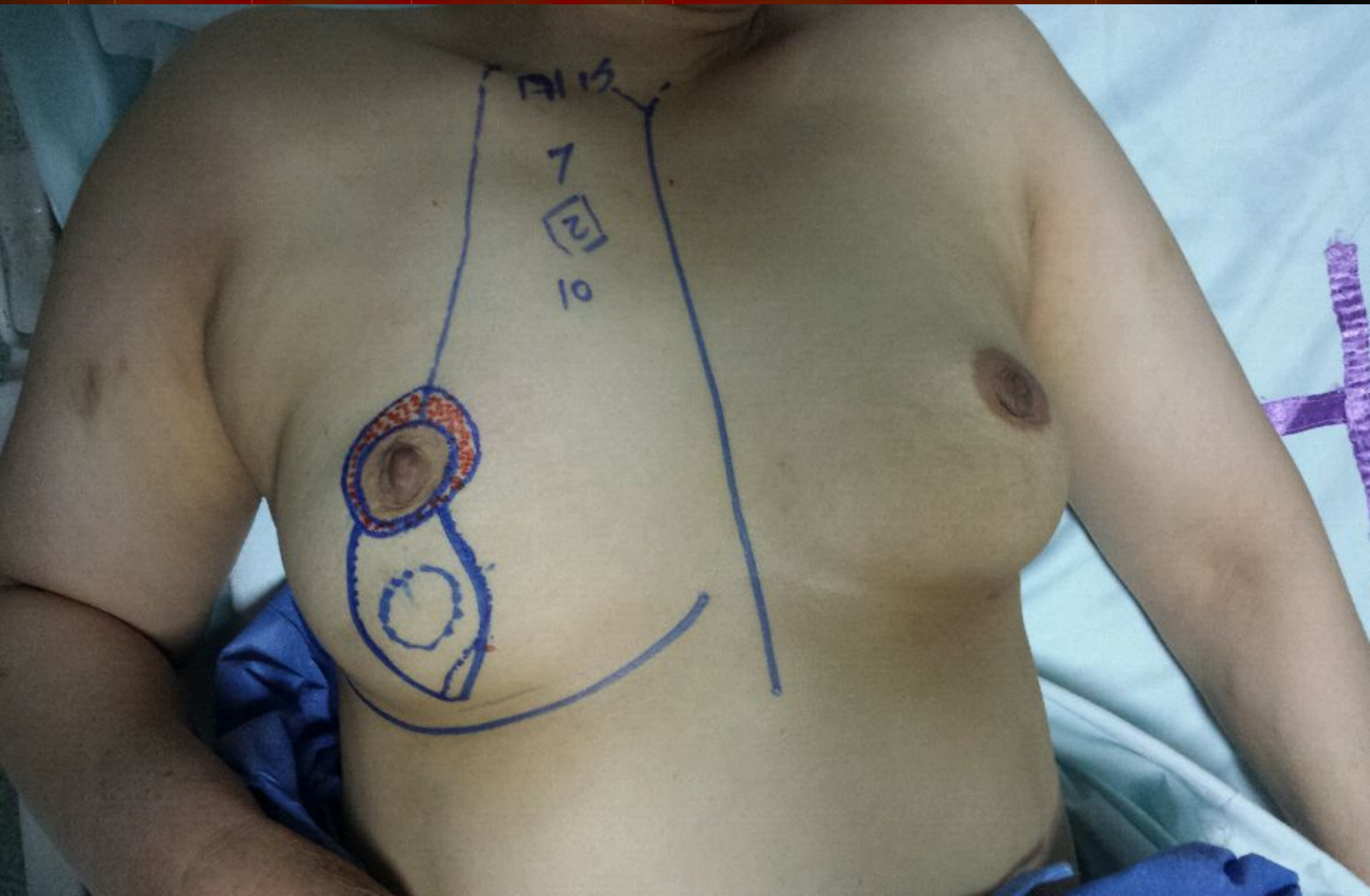




Preoperative design of inverted T (wise pattern) technique.



Preoperative design of Vertical reduction



Preoperative design of lateral (Racquet) mammoplasty technique.





Preoperative design of lateral (Racquet) mammoplasty technique.



Review of OBS steps

The next step is to cut sharply the designed tumor bearing area enblock with the surrounding breast tissue as a safety margin down to pectoral fascia.

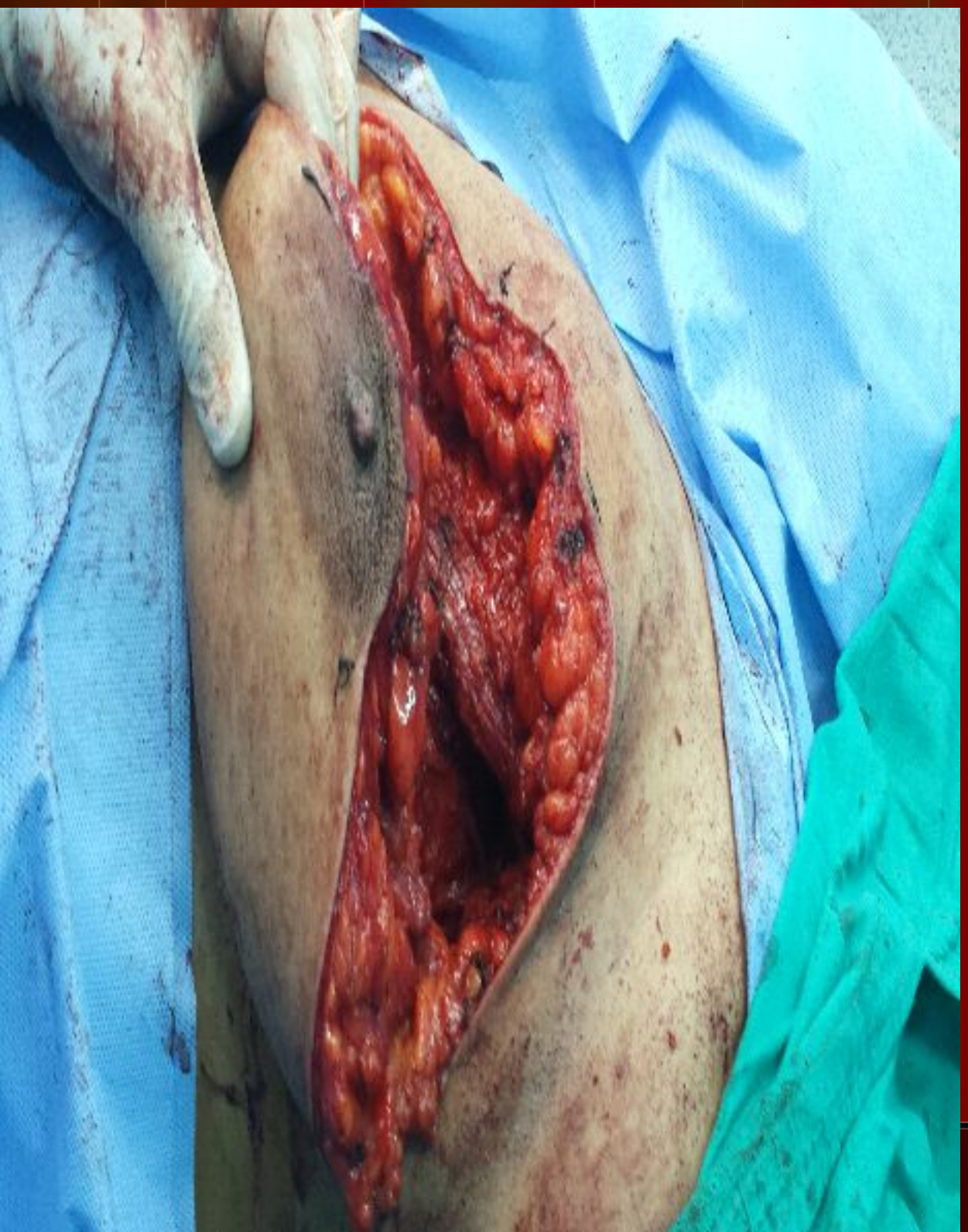
Orientation and marking of the specimen for histopatholpgical evaluation of the margins.

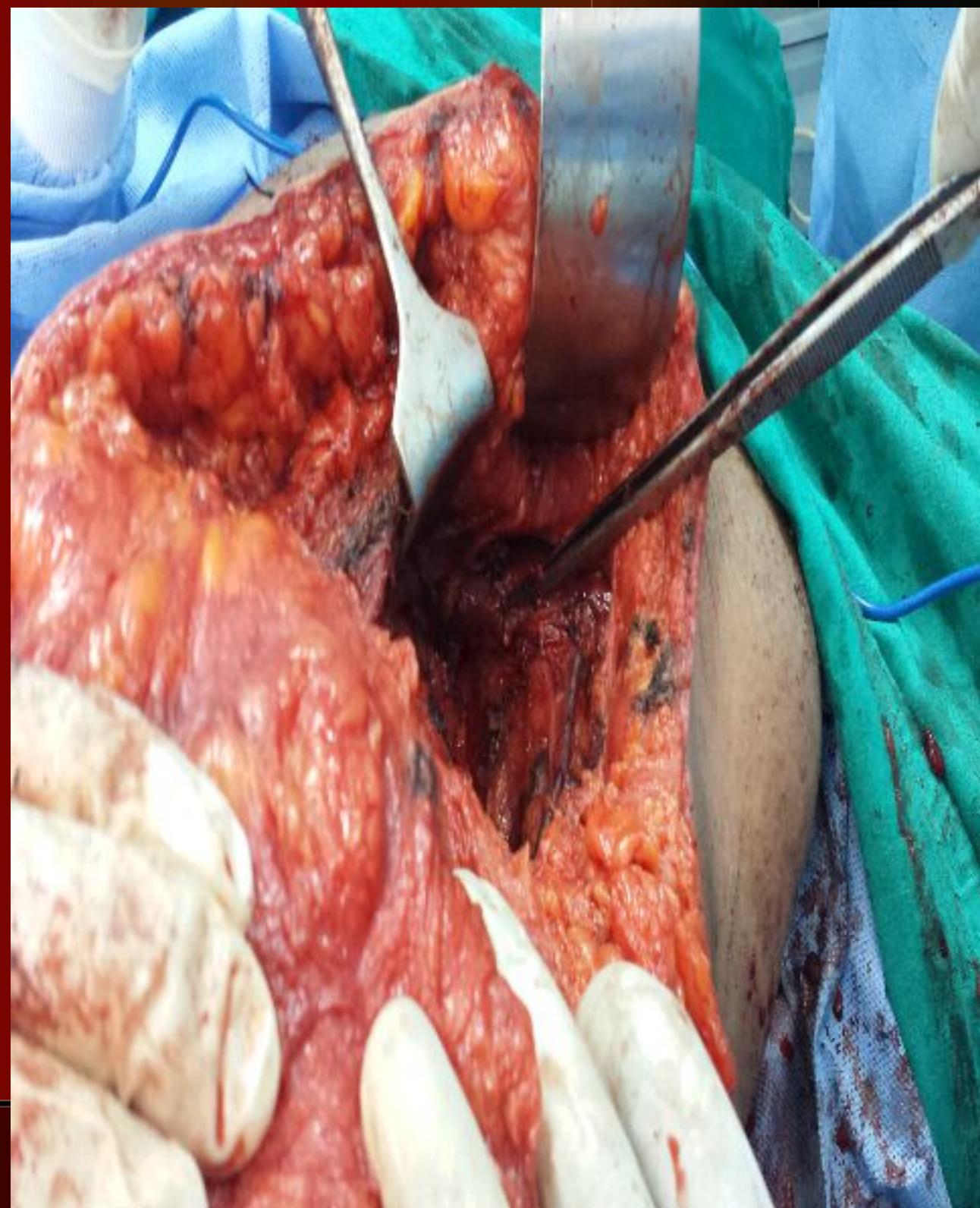
Marking the tumor bed and possible cavity with clips to facilitate postoperative RTH.

Classic ALND either from the same incision or a separate low hair line incision according to the technique used.

Closure over suction drain.

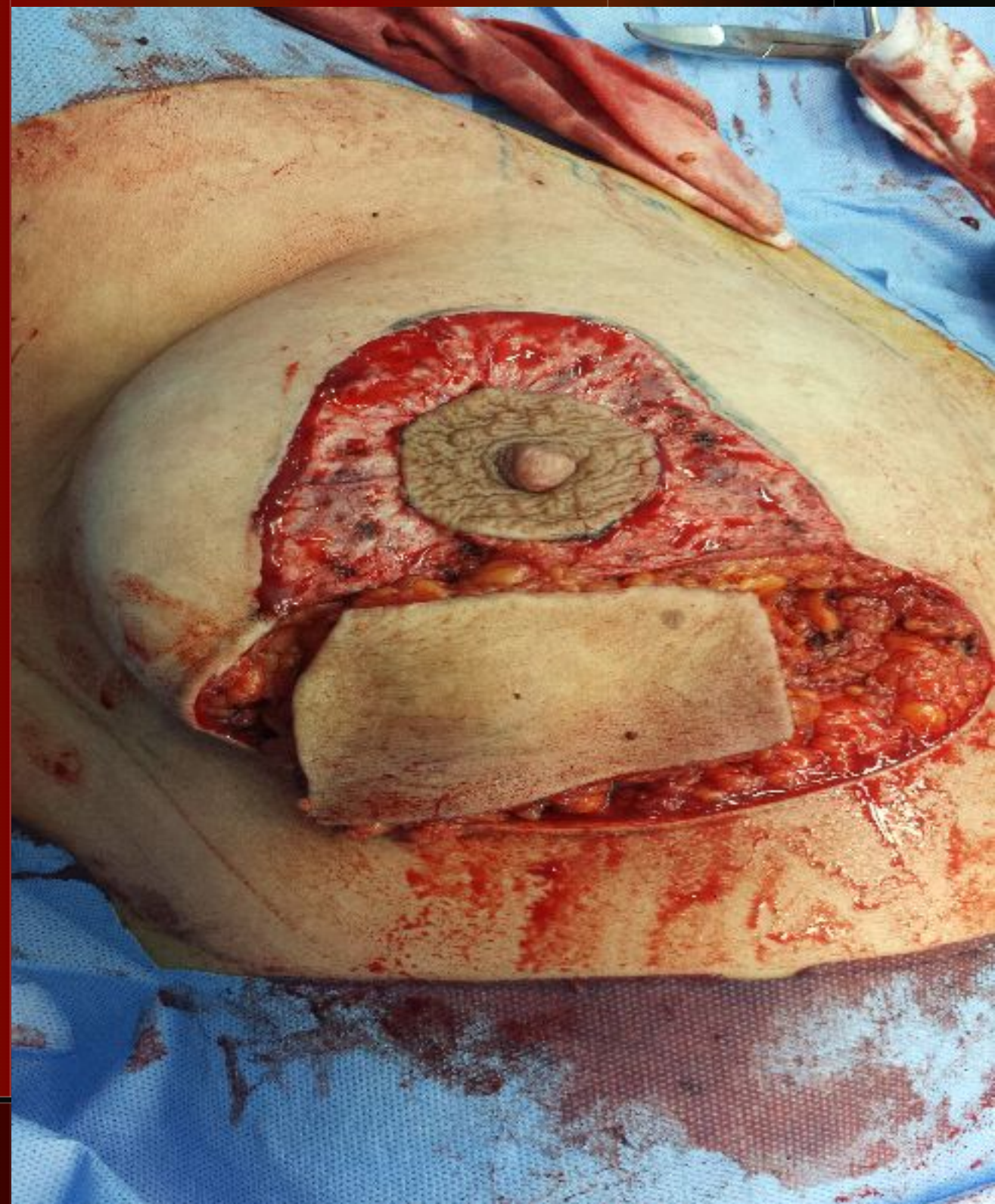
- The resected area in batwing
- ALND from the same incision





The resected tumor areas in wise pattern technique.





The resected tumor area in Benelli technique





The resected tumor area in racquet technique.

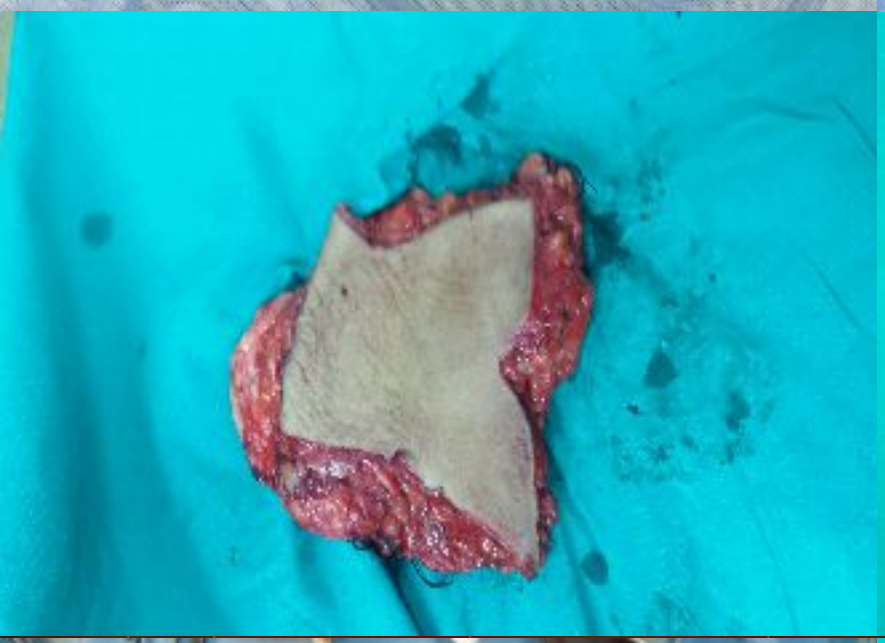
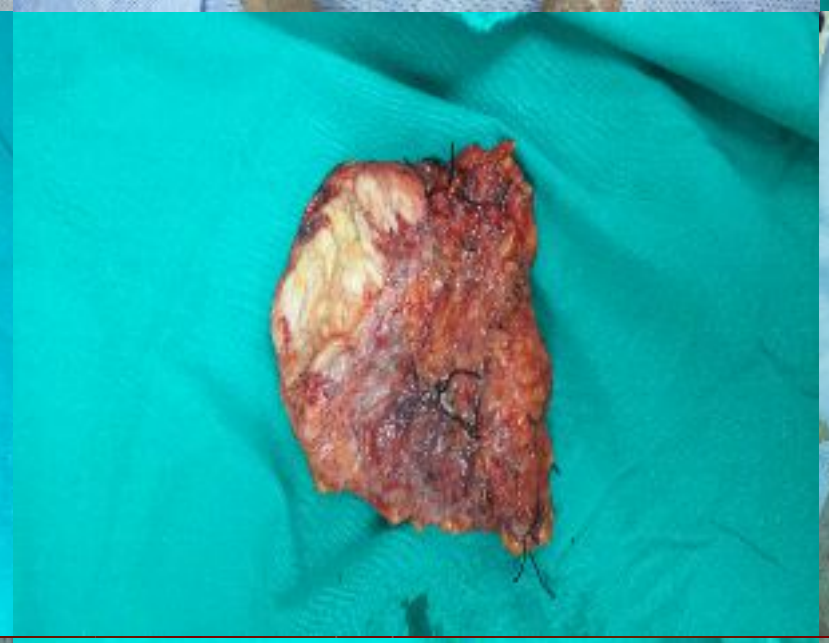
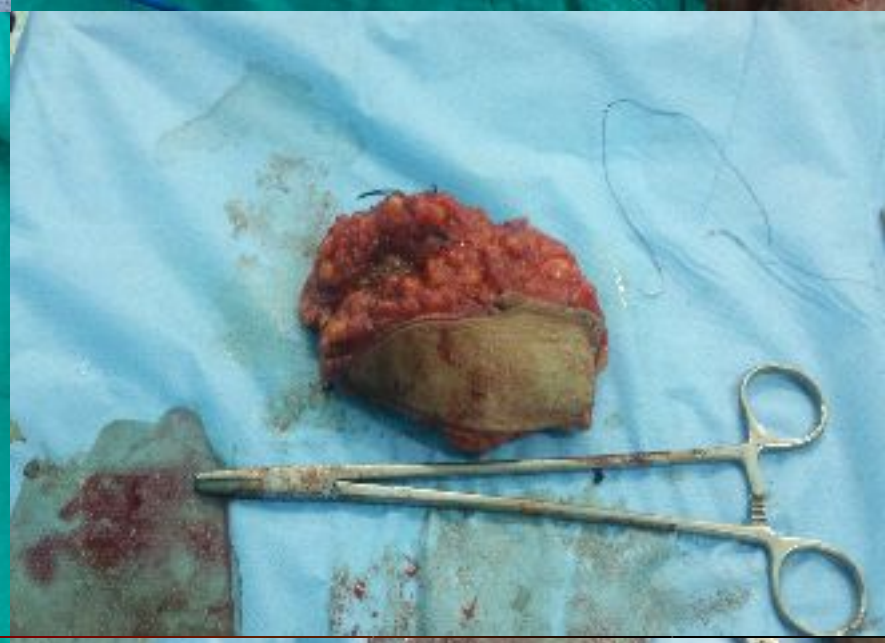
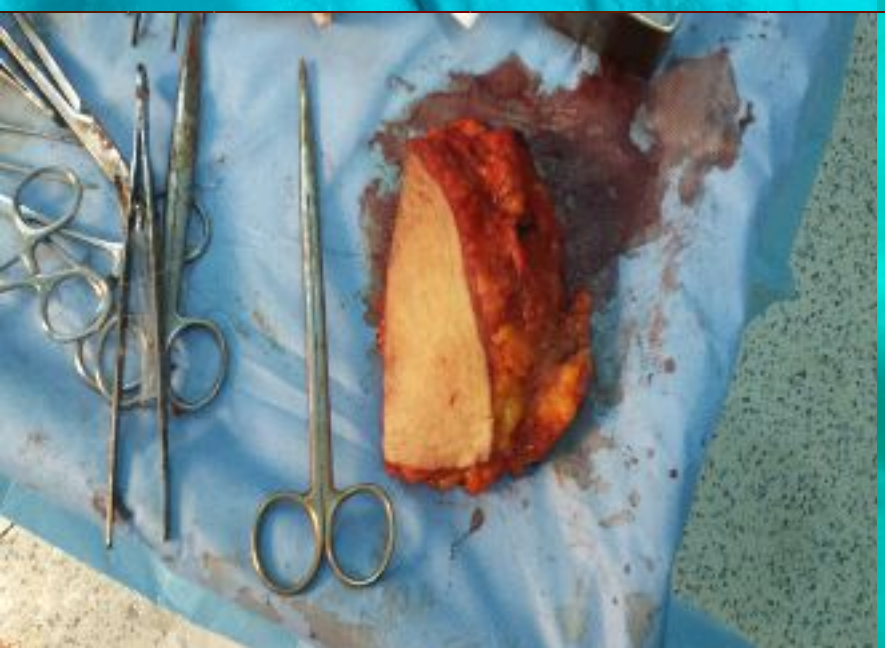




The resected tumor area in racquet technique.









upper

medial

areola

Lateral

Lower

Upper

medial

areola



Lateral

Lower

Early postoperative appearance of batwing technique

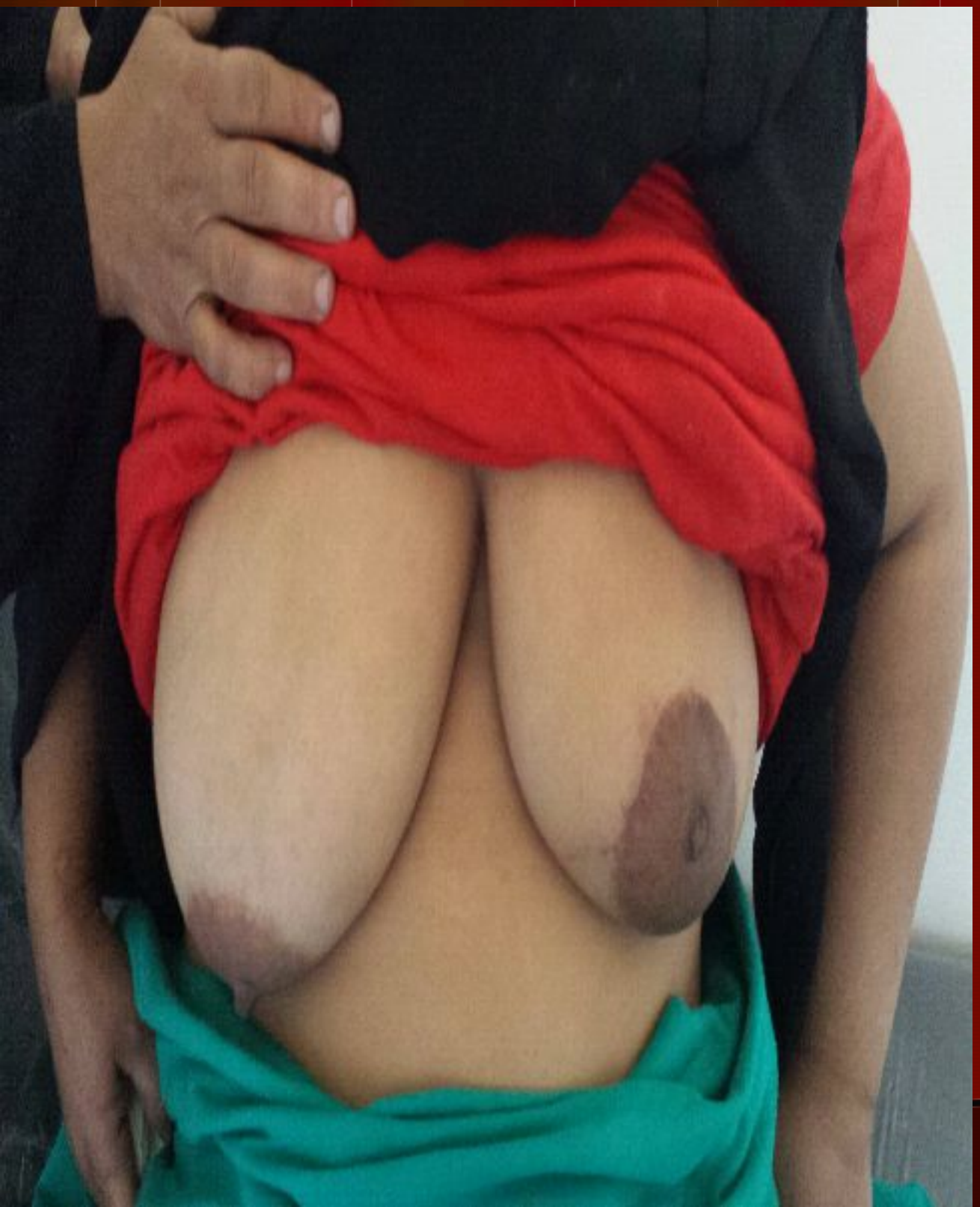




Early postoperative appearance of batwing technique



Late postoperative appearance of batwing technique.





Early postoperative appearance of Bennelli technique.





Early postoperative appearance of Wise pattern technique





Early postoperative appearance of Wise pattern technique



Early postoperative appearance of Wise pattern technique



postoperative appearance of wise pattern



postoperative appearance of wise pattern



postoperative appearance of wise pattern



Late postoperative appearance of Wise pattern technique.





postoperative appearance of wise pattern



Early postoperative appearance of racquet mammoplasty



Early postoperative appearance of racquet mammoplasty with rotational flap



postoperative appearance of racquet mammoplasty



postoperative appearance of racquet mammoplasty



Late postoperative appearance of racquet mammoplasty



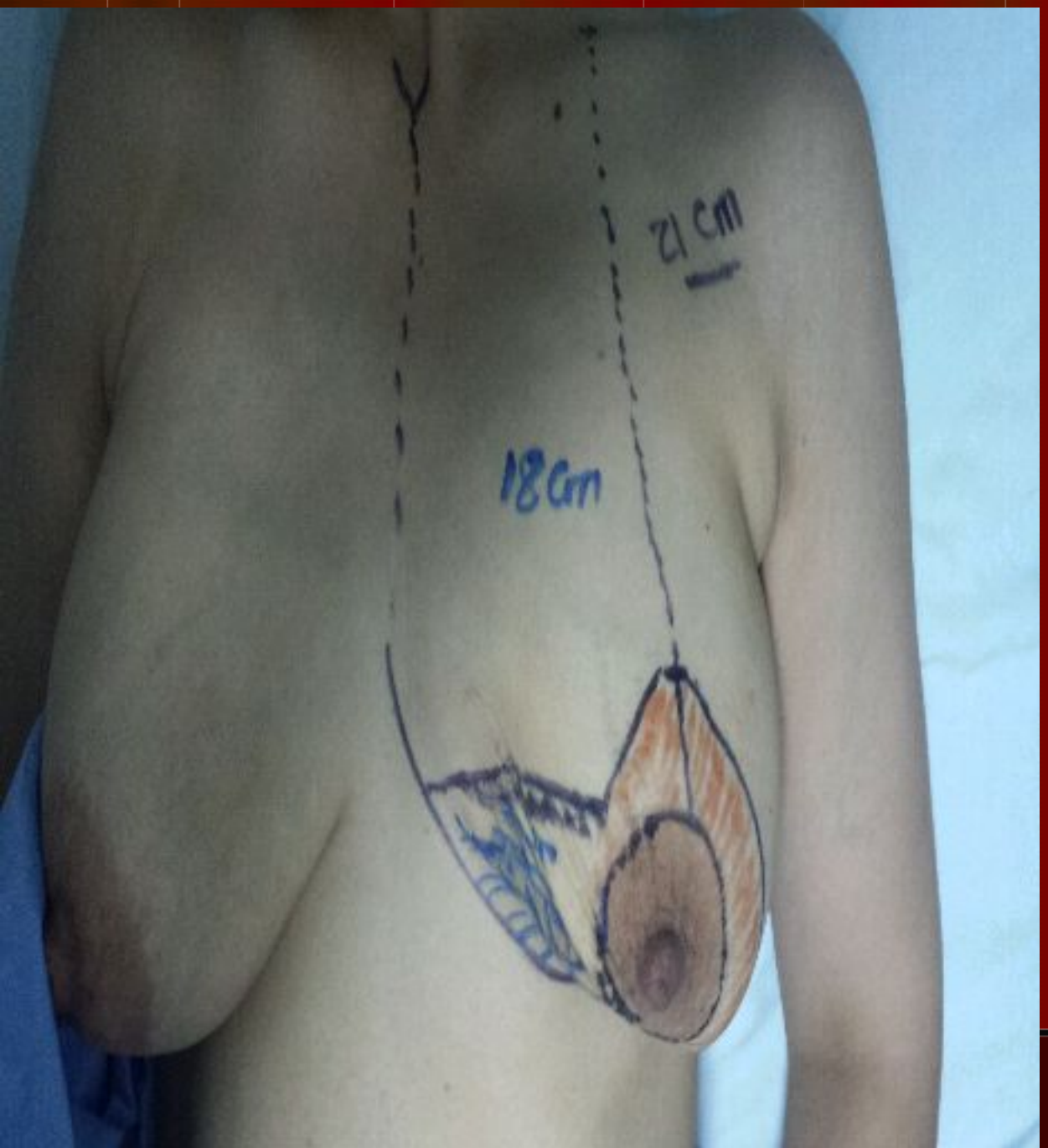
Late postoperative appearance of racquet mammoplasty



Oncoplastic breast surgery pushing the limits of breast conservation

Special case scenario

Female patient 32 years old referred to us for mastectomy with unplanned surgical resection of lower inner quadrant mass that pathology of which revealed IDC with +ve margins





For her inverted T (wise pattern) design using superior pedicle technique was used with classic ALND and we got wide free margins.



Two weeks postoperative



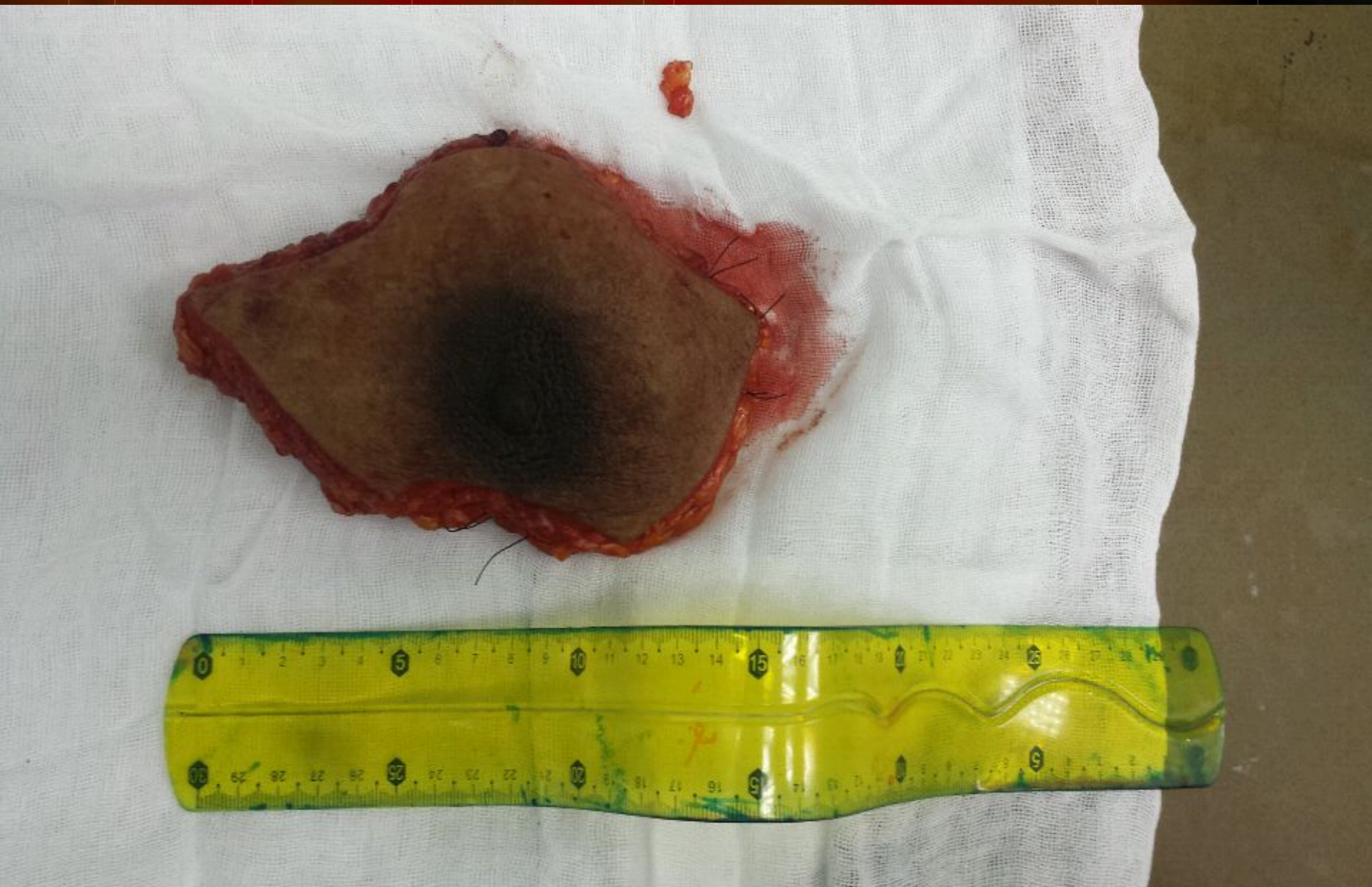
Late postoperative after finishing adjuvant ttt



Central quadrantectomy using batwing reduction mastopexy in 40 yrs lady with central lesion



Central quadrantectomy using batwing reduction mastopexy in 40 yrs lady with central lesion



Central quadrantectomy using batwing reduction mastopexy in 40 yrs lady with central lesion



28 yrs lady with inner quadrant LABC received maximum NAC



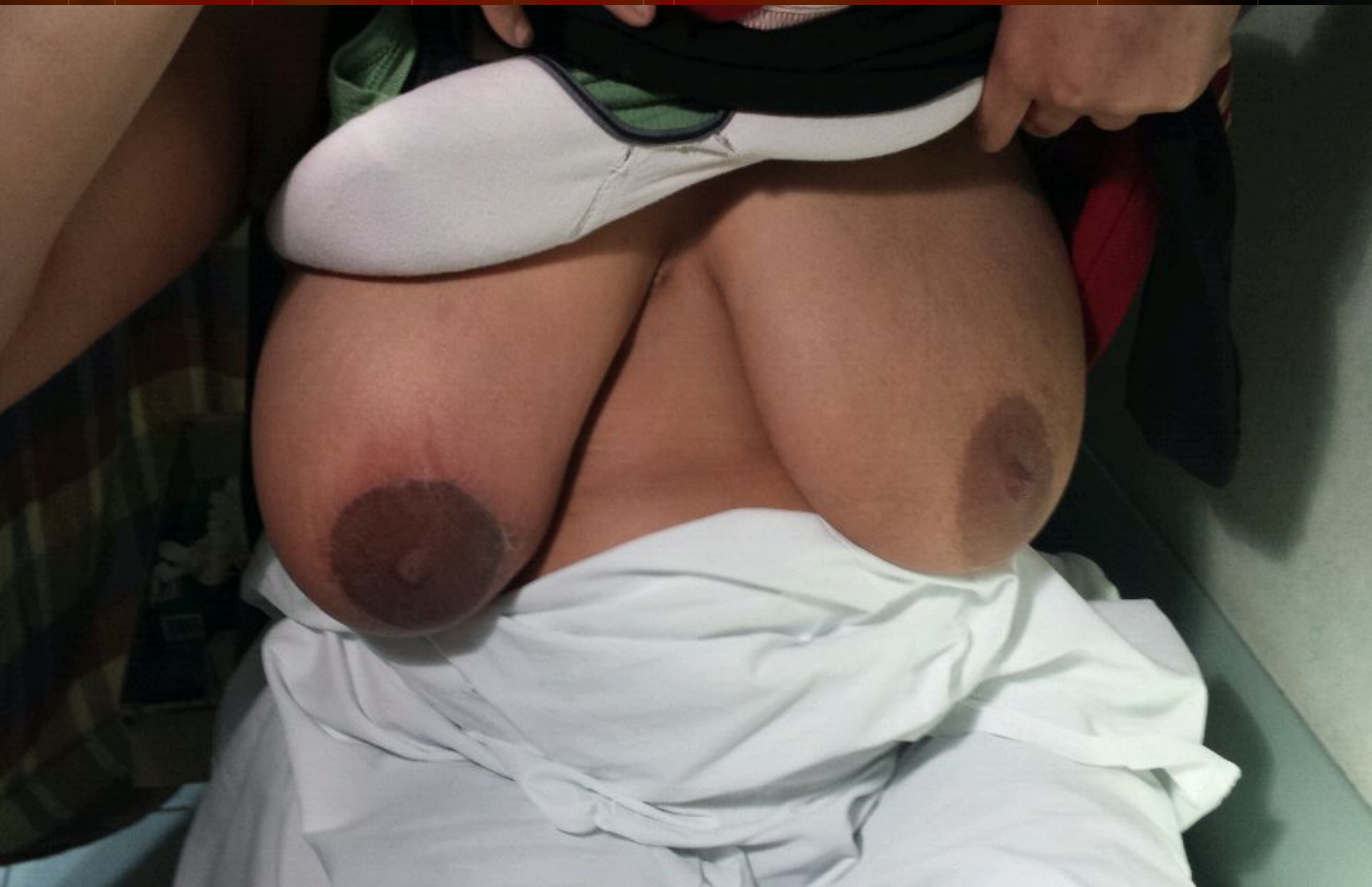
For her medial mammoplasty done



For her medial mammoplasty done



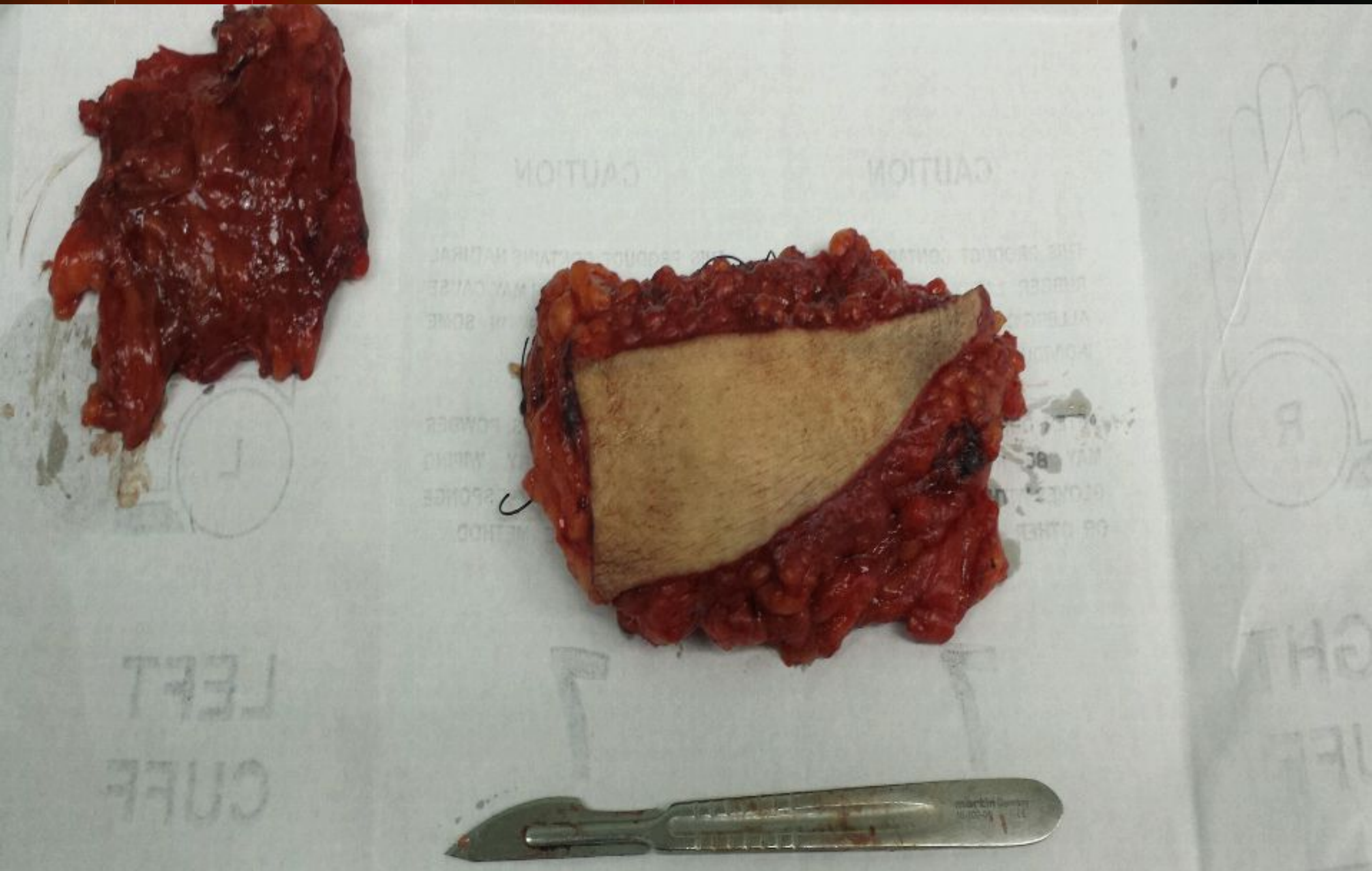
For her medial mammoplasty done



26 yrs virgin lady with T3 BC received NACT with partial response (tumor size radiologically 5.5 cm) in medium sized breast



for her lateral (Racquet) mammoplasty done



for her lateral (Racquet) mammoplasty done



for her lateral (Racquet) mammoplasty done



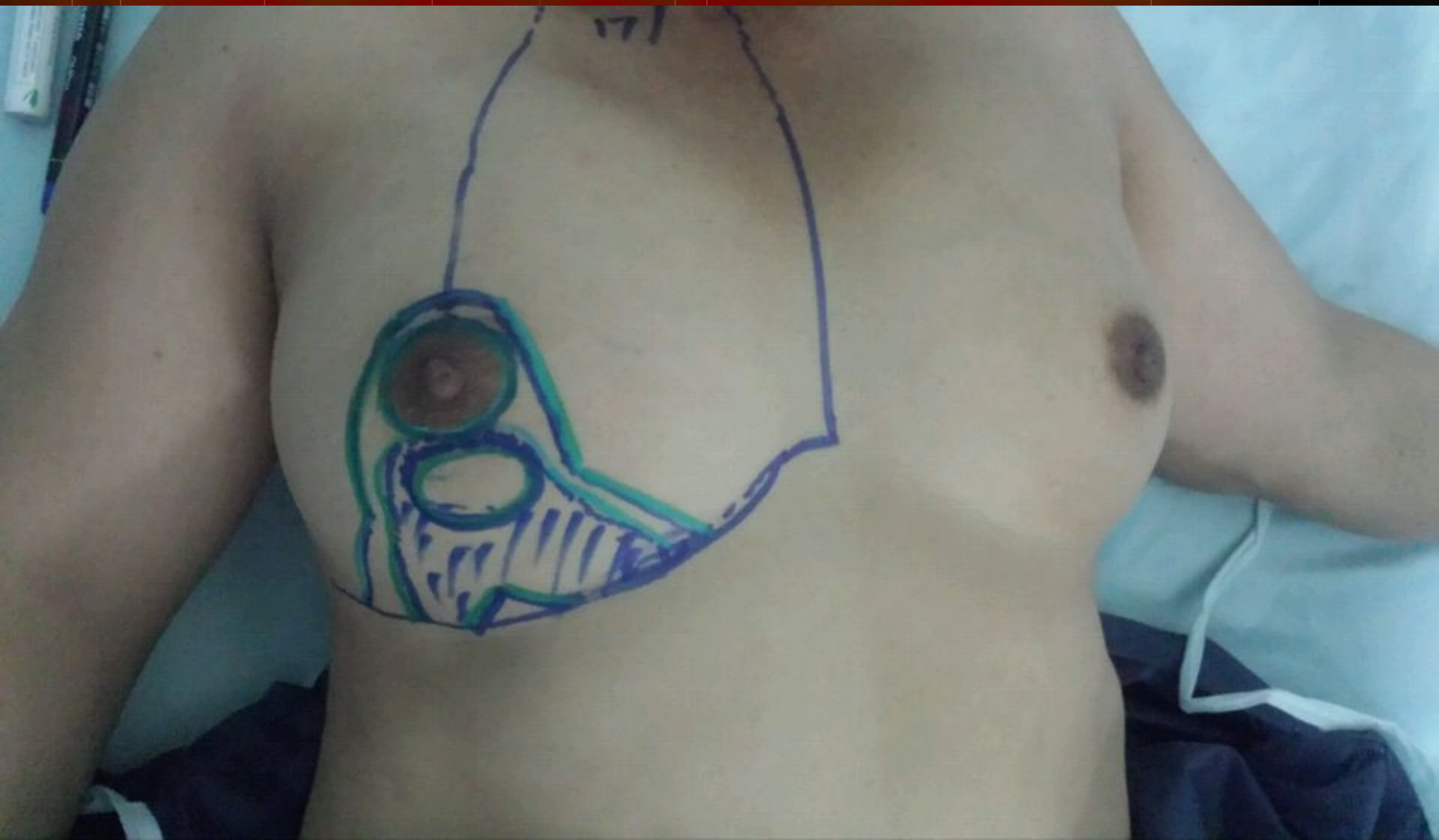
for her lateral (Racquet) mammoplasty done



for her lateral (Racquet) mammoplasty done



26 yrs virgin lady with central BC for her central conserving mastectomy using inferior pedicle areolar reconstruction done.



26 yrs virgin lady with central BC for her central conserving mastectomy using inferior pedicle areolar reconstruction done.





26 yrs virgin lady with central BC for her central conserving mastectomy using inferior pedicle areolar reconstruction done.





26 yrs virgin lady with central BC for her central conserving mastectomy using inferior pedicle areolar reconstruction done.



Message

OBS is the **state of art**. Thus, by means of customized techniques the surgeon ensures that the oncologic principles are not jeopardized while meeting the needs of the patient from an aesthetic point of view hence the name of **OBS**.

In general, the oncoplastic procedures are related to either **volume displacement** including local tissue rearrangement, reconstruction through reduction mammoplasty or mastopexy approaches, or **volume replacement** by transfer of flaps

The Breast Surgeon should be capable of **tailoring** the technique used according to breast size, tumor site and size, the patient's needs and preference and finally his own experience.



MISSION

Mission and hope

Expanding the scope of optimized breast surgery as a subspeciality using OBS and MDT to cover not only the patients but also other hospitals in our coverage area , to obtain a specialized breast surgeons.

MDT.

Training.

Mission and hope

Wider applicability of MDT approach.

Preservation of oncologically safe and cosmetically accepted breast whenever possible which posses a motivating factor for a lady with breast cancer to complete her journey of ttt which usually starts by surgery.

To state the fact that breast is a vital organ and the symbol of femininity for each women so you have to justify it's amputation by mastectomy beyond the scope of CBS and OBS.

Together

Everyone

Achieves

More






Success

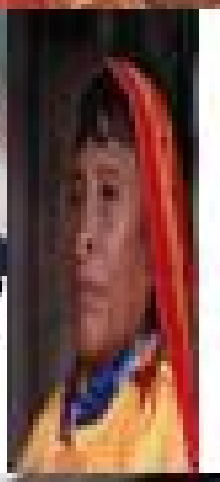






"In the art of surgery the last step is the operation"









By the year of 2018 with wide applicability of modern breast surgery practices and MDT this photo is not the only option .

"In breast cancer surgery
the last step is the operation"

John Hunter 1896



