



## PECS-2 BLOCK FOR POST OPERATIVE ANALGESIA FOR MODIFIED RADICAL MASTECTOMY -A CASE REPORT

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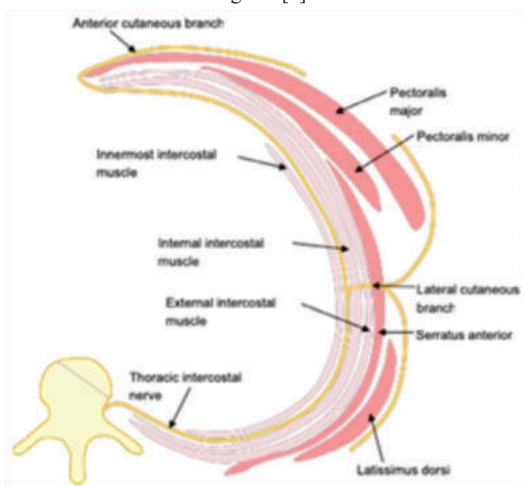
**ABSTRACT** Carcinoma breast is the most common cancer in women worldwide and surgery remains the mainstay of its treatment. Surgery for carcinoma breast is typically done under general anaesthesia and post operative pain is managed with opioids, which comes with its own set of side effects. In this case report we present a case of cancer breast surgery in a patient with multiple co-morbidities in whom the post op pain was managed with PECS-2 block.

**KEYWORDS :** Postoperative analgesia, PECS block 1 & 2, Modified Radical Mastectomy

### INTRODUCTION

Breast cancer is the most common cancer in women, comprising approximately 25% of all cases. Management is multidisciplinary and usually involves a combination of surgery, radiotherapy and chemotherapy. For the majority of breast cancer cases, surgery is the primary and most effective therapeutic intervention. After breast surgeries acute post-operative pain occurs significantly and it may progress to chronic pain. The persistent pain causes a negative physical and psychosocial impact on patients lives.[1]

The PECS block produces excellent analgesia when combined with general anaesthesia for modified radical mastectomy surgery. They are simple, easy-to-learn techniques, having easily identifiable landmarks based on good anatomical and ultrasound knowledge, making them an excellent alternative to the conventional thoracic paravertebral and neuroaxial blocks for breast surgeries[2]



Source: <https://resources.wfsahq.org/atotw/9317/>

**Figure 1:** Anatomy of PECS 1 & 2 Interfacial planes

### CASE REPORT:

A 68 years old female with left side advanced breast cancer was posted for modified radical mastectomy. Patient is a known case of hypertension for 7 years on T. Amlong, diabetes for 7 years on insulin,

seizure disorder for 30 years on T.Levipil. Patient had H/O myocardial infarction and coronary angiogram was done in 2016 and currently not on any medication for coronary artery disease.

### On Examination:

Patient was afebrile, vitals were stable (pulse rate:86/min, blood pressure:126/84mmHg respiratory rate of 12/min) and systemic examination was normal.

### 2D Echo:

showed mild concentric LVH, grade I LVDD, trivial TR and normal LV systolic function. CT chest showed sub-segmental atelectasis in right lower lobe **MRI brain** was normal.

### Anesthesia Technique:

Antihypertensives and anti epileptics were continued on the day of surgery and morning dose of insulin was withheld. Patient was taken up for surgery under ASA III, MPC III under general anaesthesia. Standard anaesthesia monitors were connected, baseline vitals documented and IV line secured. Patient pre oxygenated for 3-5 min and premeditated with Inj. Glycopyrolate 0.2 mg i.v stat, Inj. Midazolam 1mg i.v stat, Inj. Fentanyl 100 mcgs. i.v stat. Patient was induced with Inj. Propofol 100 mg i.v, muscle relaxation was achieved with Inj. Atracurium 30 mg i.v. Airway secured with 7.5 mm cuffed ETT and fixed at 21 cms after confirming B/L air entry. Anaesthesia maintained with 2% sevoflurane with oxygen and nitrous oxide mixture at 2:3 ratio with a flow rate of 1 liter/min

### PECS-2 block (left breast region)

Under strict aseptic precautions, parts painted with betadine and draped, After sterile draping, ultrasound probe was placed at the level of third rib the anatomical structures were recognised. Block was performed using 20G nerve block needle. Needle was advanced to the fascial plane between pectoralis minor and serious anterior to deposit 20 ml equimixture of 0.5% Inj. Bupivacaine and 2% Inj. Lignocaine + Adrenaline, Inj. Dexamethasone 4 mg was added as an adjuvant to enhance the duration of post op analgesia. Then the needle is withdrawn out of Pectoralis minor to reach the fascial plane between Pectoralis major and Pec minor 10 ml of the same equimixture of LA was deposited after negative aspiration.

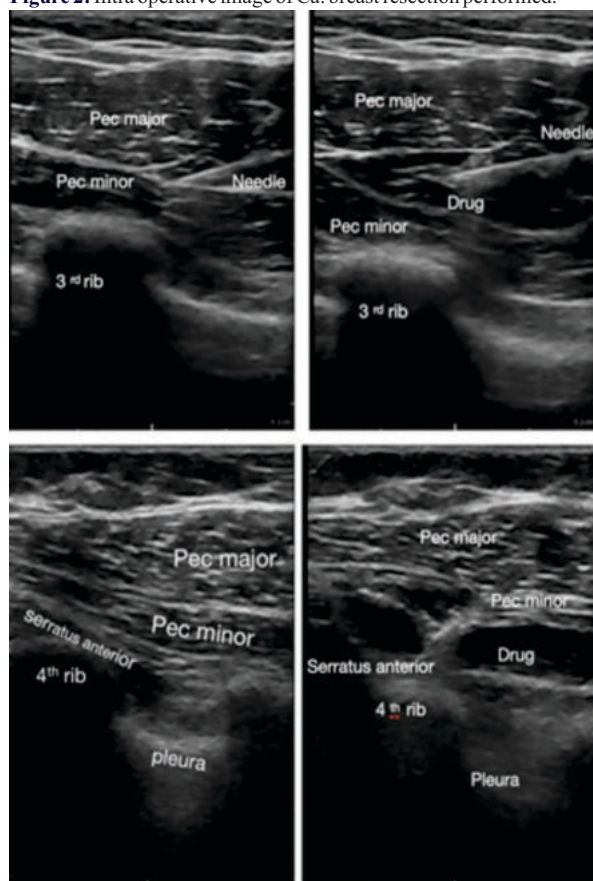
Intra-operatively and Post-operatively patient was hemodynamically stable.

In Post - operative period, patient was assessed for pain at hourly

intervals for 12hrs using the VAS scale(visual analogue scale) and the was VAS-0-1 for 8hrs and at 10 hrs when the VAS score was 4 supplemental analgesia was given with Inj. Paracetamol 1gm iv and Inj. Tramadol 100mg iv and block effect lasted for 10 hrs post surgery.



**Figure 2:** Intra operative image of Ca. breast resection performed.



**Figure 3:** 3A- Needle between Pec Major and Minor, 3rd rib below, 3B-Drug between pec Major and Minor (PEC-1), 3C-Interfascial plane between Pec Minor and Serratus Anterior muscles, 3D- Drug deposited between Pec Minor and Serratus Anterior interfascial planes (PEC-2)

## DISCUSSION:

PECS 2 block is the inter-fascial plane block given between Pectoralis major and minor, Pectoralis minor and serratus anterior fascial planes. This technique blocks the Medial and lateral pectoral nerves, long thoracic nerve, thoracodorsal nerve, intercostal nerves 3 to 6, intercosto brachial nerve and provides satisfactory analgesia, decreases the opioid consumption hence reduces postoperative nausea and vomiting. This block is commonly performed using an in-line needling technique by ultrasound guidance, which is essential to identify the plane[7]

In breast surgeries done under general anaesthesia, opioids form back bone of perioperative analgesia thus putting the patient at risk for opioid induced side effects. To prevent this, Ultrasound guided regional anaesthesia is playing a major role in terms of providing the patient better postoperative care.

Blocking the sensory supply to breast, axilla and over the pectoral muscles provides prolonged and adequate analgesia in intraoperative & post-operative period, decreases the requirement of rescue analgesic and decreases the incidence of PONV.

In conclusion, the PECS II block significantly improves the quality of analgesia and reduces opioid consumption following breast cancer surgery compared with systemic analgesia alone. Given that its analgesic efficacy is similar to that of thoracic paravertebral blockade, the Pecs II block warrants consideration as a first-line option for regional analgesia in breast surgery.

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