



## SUCCESSFUL PARAVERTEBRAL BLOCK ANAESTHETIC MANAGEMENT IN PATIENT WITH LEFT CARCINOMA BREAST FOR MODIFIED RADICAL MASTECTOMY

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**ABSTRACT** Technique where local anaesthetic is injected into the space adjacent to the vertebrae to block the spinal nerves as they emerge from the intervertebral foramen is paravertebral block. Here, spinal nerves devoid of covering fascia making them sensitive to the action of local anaesthetics. A single site injection can provide blocks of 4-6 dermatomes. Performed at cervical, thoracic, or lumbar level. A 55 year old female with history of lump in left breast for past 2 months. She is diagnosed to be carcinoma left breast posted for Modified radical mastectomy under thoracic paravertebral block.

**KEYWORDS :** Modified radical mastectomy, thoracic paravertebral block, General anaesthesia.

### INTRODUCTION

The thoracic paravertebral block (TPVB) is a peripheral nerve block performed by injecting local anaesthetic (LA) into the thoracic paravertebral space (TPVS). The TPVB targets spinal and sympathetic nerves, in order to produce an ipsilateral segmental somatic and sympathetic block. TPVB is used for anaesthesia and analgesia for surgery of the chest and abdomen. This block requires a greater degree of technical skill than many other peripheral nerve blocks, due to the deeper location of the target, the narrow sonographic window, and the potential risks of pneumothorax and epidural or intrathecal spread (including total spinal). We present a 55 year old women with Carcinoma left breast posted for modified radical mastectomy.

### CASE REPORT

55 year old female, resident of Karaikal with lump in left breast for 2 months. Two months back, patient noticed a small lump in the left breast, insidious in onset, progressive in nature, not associated with h/o pain/fever/ulceration/skin changes/nipple discharge/nipple retraction/trauma/weight loss/reduced appetite/back pain/jaundice/seizure/bone pain/hemoptysis/abdominal pain/cough/breathlessness/chest pain/h/o lump in other breast. On examination patient conscious, oriented, moderately built and nourished. No pallor/icterus/cyanosis/clubbing/lymphadenopathy/pedal edema. Vital signs: Pulse rate-74/min, BP-120/80 mmhg, Temp-98.4F; Respiratory rate-22/min; weight-65kg.

On examination of breast, left breast lump seen in upper outer quadrant, left nipple areolar complex lower than the right side, no retraction of nipple/no ulceration/no discharge from nipple/no eczema. Skin over the breast: Trucut biopsy scar at 3<sup>o</sup> clock position adjacent to the left nipple areolar complex. No visible veins/no redness/no dimpling/no puckering/no peau d orange appearance/no ulceration over breast. On palpation a solitary lymph node present in left axilla, hard in consistency, non tender. Palpation of right breast and axilla normal. CVS-first and second heart sounds heard normally, no murmur or added sounds, Respiratory system-B/L normal vesicular breath sounds, no crepitations or wheeze, CNS-no focal neurological deficits.

### Investigations:

RBS-121mg/dl; urea-22; creatinine-0.6, Na+131meq/l; Cl- 116; K+3.33. **CBC:**Hb-11.3; TC-8200; PLT-2.14laks, LFT:T.B-0.9; D.B-0.1; I.B-0.8; SGOT-28.4; SGPT-31.2, ALP-84; Protein-6.6; Albumin-3.3. Serology:HIV-negative; Hbsag-negative; HCV-non reactive, BT-3 min 15sec; CT-4min 30sec, Blood Group:O+ve, Urine routine-normal, USG abdomen and pelvis done -grade 1 fatty liver, rest normal, MAMMOGRAM-BIRADS 4C left breast, TRUCUT BIOPSY-Infiltrating ductal carcinoma left breast, ECG-Low voltage L3,avl:T inversion in V1,V2,CHEST X RAY-increased BVM. Preoperative counselling was performed and high risk consent and informed written consent was obtained with ASA grade 3. Patient was shifted to OT, monitors were attached(pulse oximetry,NIBP,ECG) and baseline vitals recorded, IV line secured in right hand and maintenance fluid started.

**Procedure:** Thoracic paravertebral block with spinal anaesthesia. Patient kept in right lateral position, under aseptic precautions, parts painted and draped. T5-T6 space identified. Paravertebral block given using 18G epidural needle and catheter fixed at 8cm. Inj lignocaine plus adrenaline 2 percent 3cc test dose given epidurally T8-T9 space identified. 26G spinal needle inserted until free flow of csf is seen. Inj bupivacaine 0.5 percent (Heavy) 1.8cc given intrathecally. Adequate level achieved. vitals stable. patient monitored.

**Epidural Topup:** At the start of procedure, 5cc lignocaine plus adrenaline 2 percent given. After 45 minutes, every half an hour 5cc lignocaine plus adrenaline 2 percent given till the end of the procedure.



### POST OPERATIVE MANAGEMENT:

Vitals monitored, postoperative analgesia was maintained with inj bupivacaine 0.125 percent topup. Patient had no c/o pain/nausea/vomiting postoperatively.

### DISCUSSION

Thoracic paravertebral block used to provide anaesthesia and analgesia with minimal complications. Patients undergoing surgery of breast and axilla using this technique have fewer incidence of post operative nausea and vomiting as compared to those undergoing General anaesthesia(GA). Also it require less anaesthetic dosage in the

early post operative period. TPVB enables less hospital stay compared to General anesthesia. Morbidity and mortality is very low using this technique in the high risk patients with several comorbidities. It allows early ambulation and reduces the duration of SICU stay. Patients had severe cardiac and pulmonary comorbidities necessitated the need to avoid GA or thoracic epidural anaesthesia, thus arising the requirement for TPVB. Efficacy of TPVB does not depend on operator dependent, which is consistent with the observation that TPVB is a relatively easy technique to learn. Paravertebral blockade in conjunction with sedation provided adequate anaesthesia for majority of patients without conversion to GA. In patients with severe cardiac reserve and pulmonary reserve, even sedation was not given and procedure was well tolerated. Requirement of IV paracetamol, diclofenac or tramadol can be avoided postoperatively. Ability to avoid prolonged hospitalization and recovery without pain, nausea and vomiting soften the impact of a cancer diagnosis and encourages early return to normal activity, especially in patients with multiple comorbidities. Patient satisfaction has also been high with this technique making it the most meaningful aspect of using TPVB.

#### **CONCLUSION**

Thoracic paravertebral block is a technique which can be safely used in patients who are unfit for General anesthesia planning to undergo chest or abdominal surgery. It helps in avoiding prolonged hospitalization and recovery without pain, nausea and vomiting soften the impact of a cancer diagnosis and encourages early return to normal activity, especially in patients with multiple co-morbidities.