



Chest Wall Blocks as Anesthetic Adjuncts in Oncologic Surgery for High-Risk Patients

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Introduction

- Breast oncologic surgery can contribute to significant intraoperative nociceptive and sympathetic activation.
- High-risk cardiac patients are vulnerable to hemodynamic instability and surgical stress response.
- Pecto-serratus (PECS II) and pecto-intercostal fascial plane (PIFP) blocks provide anterolateral chest wall analgesia → reduce opioid use and perioperative stress response.

Methods

Pecto-serratus block (PECS II):

- Probe in oblique orientation along lateral chest wall
- LA deposited between pectoralis minor and serratus anterior muscles

PIFP block:

- Parasagittal placement of probe near sternum (T2–T4)
- LA between pectoralis major and internal intercostal muscles

Local Anesthetic Formulations

Case 1: Pecto-serratus + PIFP

- 30 mL 0.5% bupivacaine with PF Dexamethasone 10 mg

Case 2:

- Intercostobrachial (ICB) nerve block: 5 mL 0.5% bupivacaine with PF dexamethasone 2 mg
- Pecto-serratus block: 20 mL 0.5% bupivacaine with PF dexamethasone 8 mg

Case Reports

Case 1

- 87-year-old female
- Mucinous breast carcinoma
- Moderate AS, moderate MR + SSS (pacemaker) + pulmonary HTN
- Right segmental mastectomy
- Blocks: PECS II + PIFP
- 30 mL 0.5% bupivacaine + 10 mg dexamethasone
- Hemodynamically stable
- No perioperative opioids
- PACU pain: 0/10

Case 2

- 87-year-old female
- Forearm melanoma
- Severe rheumatic mitral stenosis + AFib
- Axillary LN excision
- ICB nerve block + PECS II
- 25 mL 0.5% bupivacaine + 10 mg dexamethasone
- Stable intraoperative course
- Minimal postoperative pain
- Same-day discharge

Clinical Images

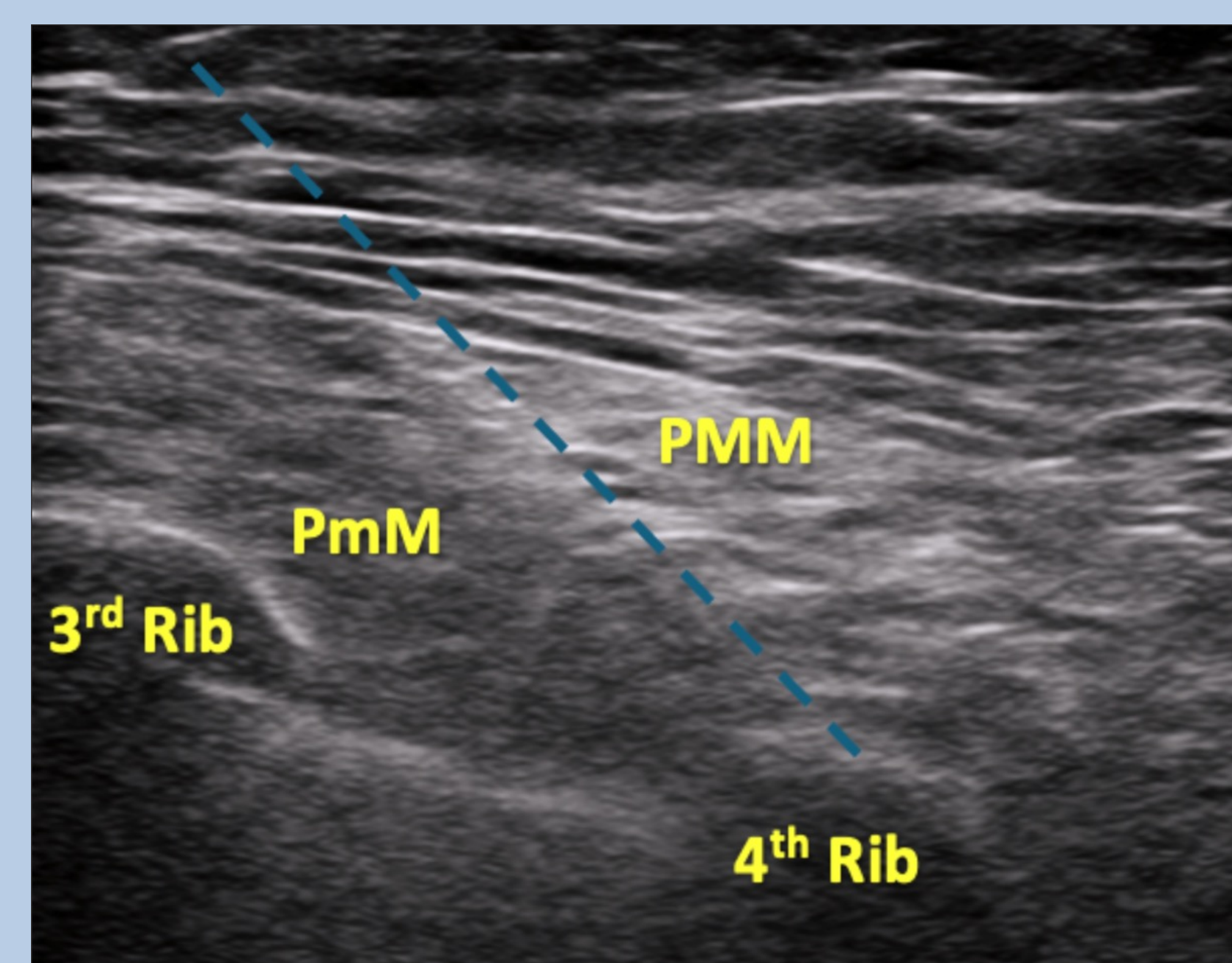


Figure 1. Pecto-serratus block with needle trajectory. PmM: Pectoralis minor muscle, PMM: Pectoralis major muscle

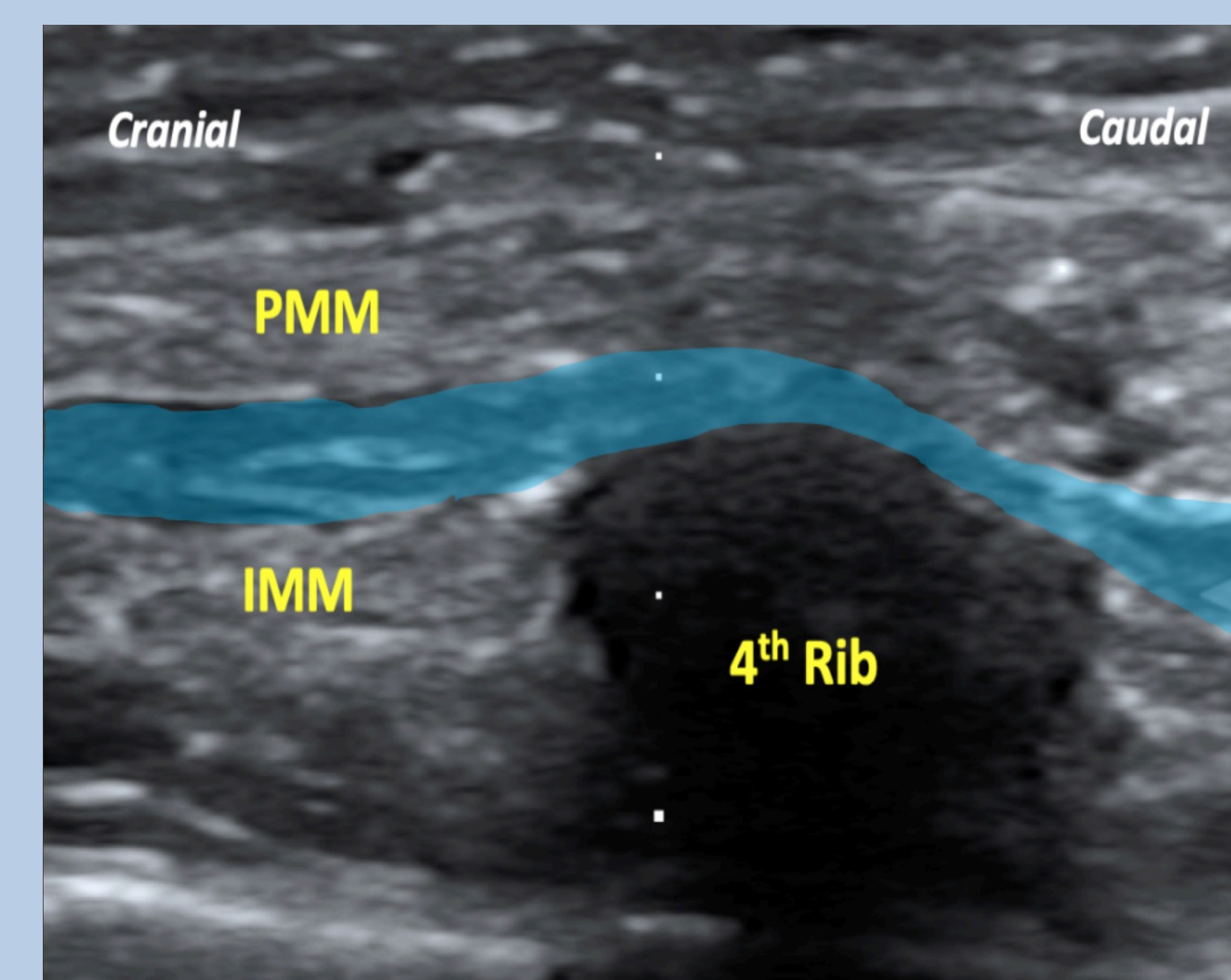


Figure 2. Pecto-intercostal fascial plane (PIFP) block. PMM: Pectoralis major muscle, IMM: Internal intercostal muscle

Discussion

Key Points

- Chest wall blocks attenuate nociceptive and sympathetic activation during surgery
- Reduced perioperative stress response lowers myocardial oxygen demand → essential in high-risk cardiac patients
- Opioid minimization is critical in elderly patients.
- Blocks serve as hemodynamic stabilizers, not just analgesic adjuncts.
- Regional anesthesia facilitates effective perioperative care in high-risk patients and reduces complications as well as prolonged hospital stay

Chest wall fascial plane blocks may serve as essential anesthetic adjuncts in high-risk cardiac patients undergoing breast and axillary oncologic procedures.

Abstract & References

