

Introduction:

Advancements in surgical technique and adjuvant treatment (i.e. chemotherapy and radiation) has improved overall prognosis for breast cancer patients.

- Risk of chronic postsurgical pain, present in up to 35% of cases as pain lasting greater than 3 months.¹
- Underlying mechanism likely from nerve trauma/damage, chemoradiation-related neuropathy, neuromas in scar tissue.

Regional anesthetic techniques have consistently shown benefits for patients undergoing chest wall surgery.⁴

- Paravertebral blocks (PVB) have been an integral component in breast surgery
- Some studies have suggested that PVB for breast cancer surgery could reduce incidence of chronic postsurgical pain and intensity of neuropathic pain up to 1 year^{2,3}

This case report describes a patient undergoing reconstructive breast surgery with an underlying history of chronic chest wall pain stemming from prior surgical interventions. We highlight the impact of PVBs on both postop & chronic pain symptoms.

Material & Methods:

Informed consent for inclusion in this case report was obtained. As this case report is devoid of any patient identifiable information, it is exempt from IRB review requirements per the MD Anderson Cancer Center policy.

Case Report:

39-year-old woman with a history of invasive ductal carcinoma s/p neoadjuvant chemotherapy and bilateral mastectomy with chest wall radiation. Subsequently, the patient underwent bilateral free flap breast reconstruction, which resulted in persistent pain and tightness along the right chest wall, persisting over two years.

- Chronic pain described as constant, sharp, and stabbing from the posterolateral chest wall and radiating anteriorly along the chest to the sternum. No relief provided by oral medications (gabapentin and oxycodone)

As part of reconstructive planning, the patient was scheduled to undergo left breast revision. Due to the additional chronic right-sided chest wall pain, a decision was made to perform ***bilateral PVBs to address both surgical pain (left chest wall) and chronic neuropathic pain on the contralateral side.***

- Curvilinear probe used to identify the T3 paravertebral space
- In-plane technique with injection of 5 ml of 0.5% Ropivacaine with visible downward deflection of the pleura.
- Block repeated at T5 and then again at T3 and T5 on the contralateral side.
- Total of 20 ml of 0.5% Ropivacaine with 10 mg Dex

Postop, the patient endorsed significant pain relief on the non-surgical side (chronic chest wall pain) and surgical site. At 1 month postop, she expressed a notable decrease in chronic pain symptoms along right chest wall and improved postop symptoms in comparison to her prior surgeries. Only continued Gabapentin with Tramadol PRN for breakthrough pain.

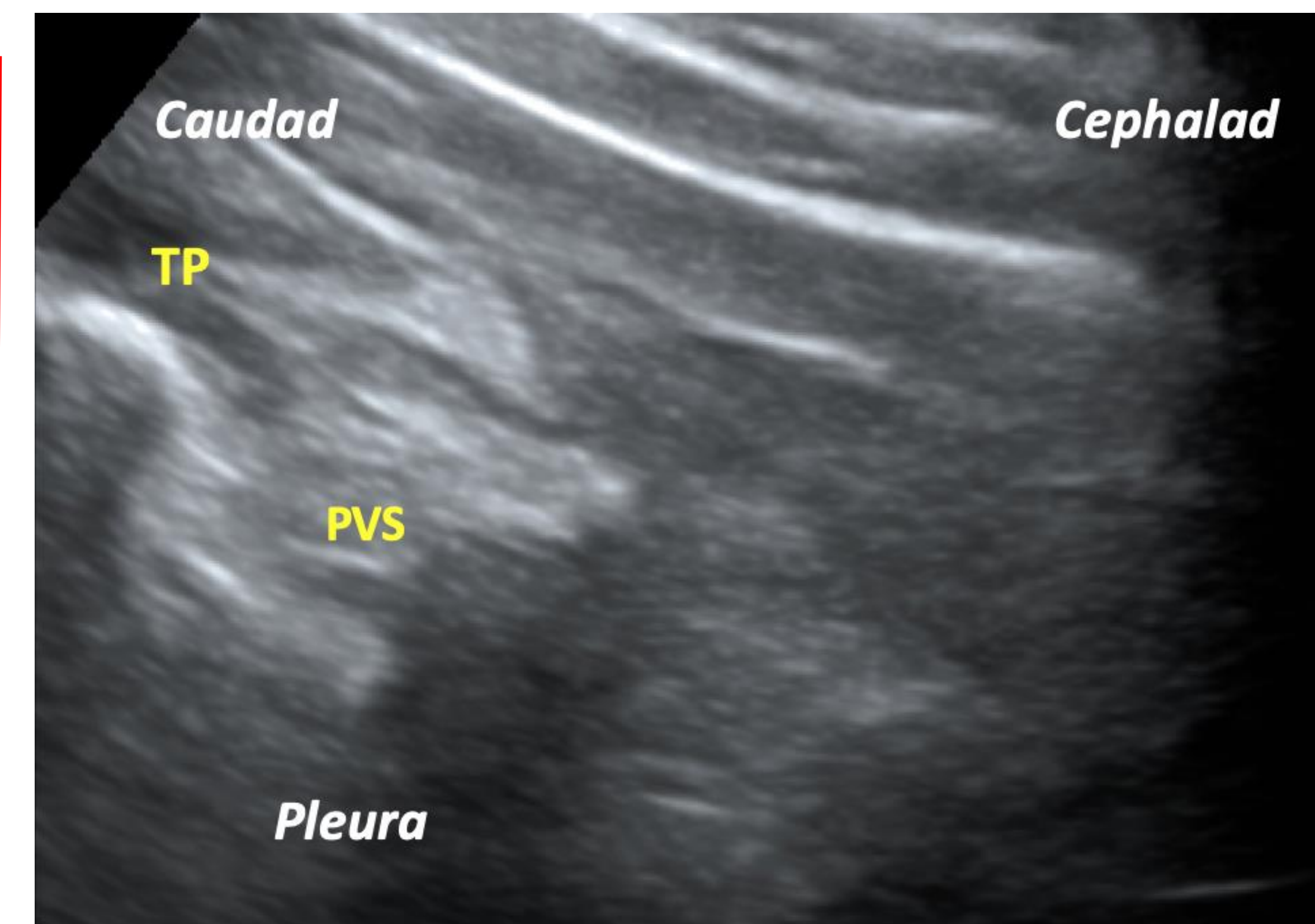


Figure 1. Ultrasound image of thoracic transverse processes with ultrasound transducer in parasagittal orientation and lateral tilt to identify corresponding paravertebral space. TP: Transverse Process, PVS: Paravertebral Space

Discussion:

- Chronic postsurgical pain, lasting greater than 3 months after surgery, is frequently reported after breast surgery.¹
- Ineffective postop pain control is a risk factor for persistent postsurgical pain.⁵
- PVB has been shown to provide acute postoperative analgesia, lower the use of opioids for pain, and lead to faster recovery and discharge following surgery.³
- Meta analysis study showed that multilevel single-shot PVB for breast cancer surgery significantly reduces incidence of chronic post surgical pain at 6 months (by 48%) and reduces neuropathic pain at 6 and 12 months (by 54% and 51% respectively).⁴
- Another study demonstrated that utilization of preoperative PVB reduces the prevalence of chronic pain at one year after surgery.²
- ***This case highlights the utility of PVBs as a reasonable strategy to address expected acute postoperative pain, but also potentially provide a “break” in the chronic pain cycle for a patient with persistent post-surgical pain.***



ABSTRACT