

An Unusual Pneumothorax

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Background

- Over 500,000 procedures done on the shoulder each year¹
- Nerve blocks of the brachial plexus are commonly utilized
- The most common block done is the Interscalene nerve block
 - Side effects
 - Hemidiaphragmatic paresis
 - Horner's syndrome
 - Vocal hoarseness
- The Superior Trunk nerve block reduces the risk of side effects²
- A rare complication of brachial plexus nerve blocks is pneumothorax

Case Description

- 75 year old male presenting for total shoulder arthroplasty at SMSC
- Anesthesia Plan: GA with a superior trunk peripheral nerve catheter (Figure 1)
- After extubation, patient became tachypneic, with increased work of breathing
- No breath sounds auscultated on the right side, CXR ordered (Figure 2)
- A chest tube was placed, and the patient was transferred to SM ED
 - Pneumothorax resolved
- POD1 - PNC was started, the chest tube was removed, and the patient was discharged
- POD3 - PNC was removed without issue
- POD4 - No residual numbness or shortness of breath

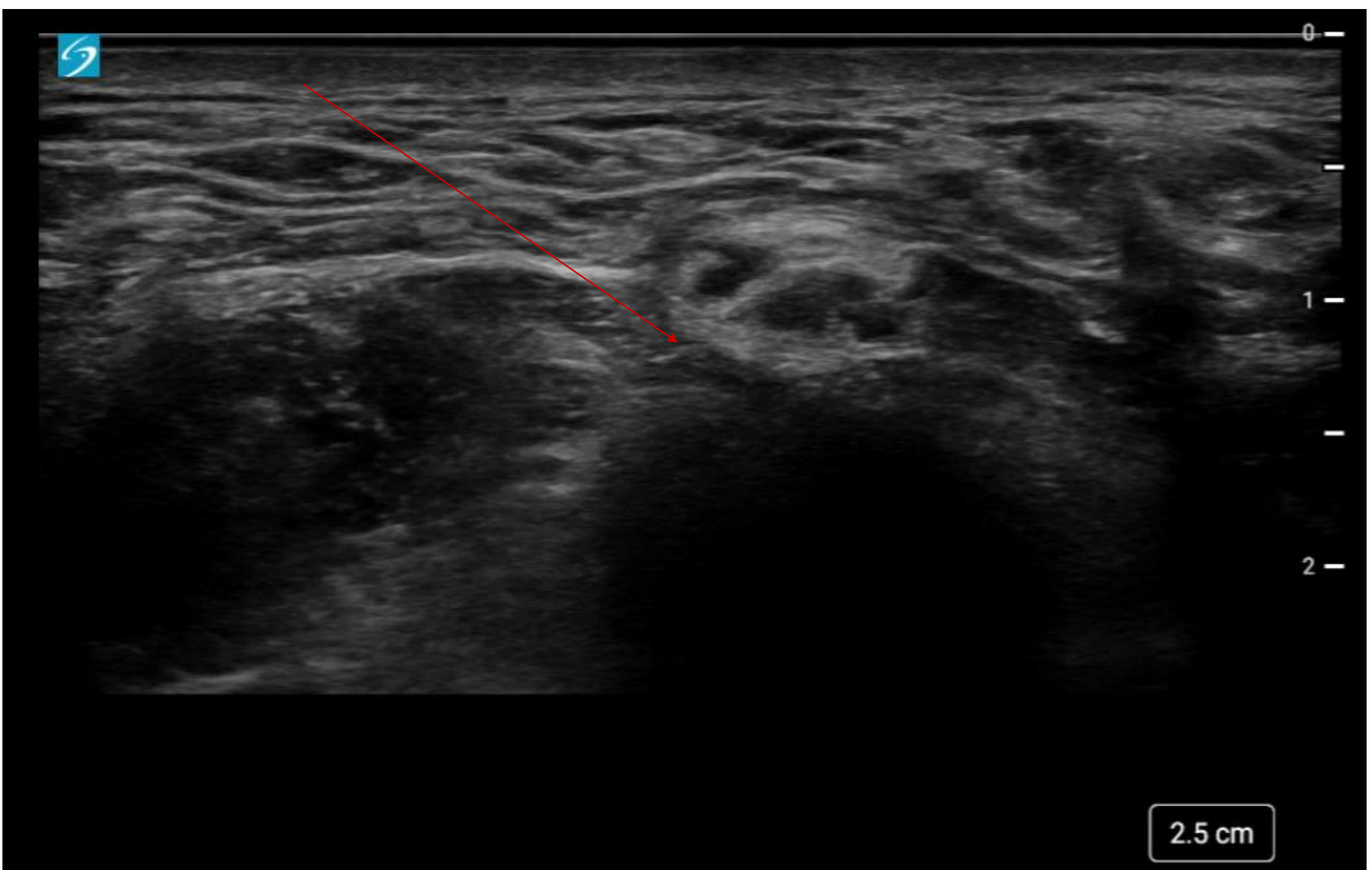


Figure 1: Patient Anatomy and Ultrasound imaging of the Superior Trunk, identified by the red arrow.



Figure 2: Patient Chest X-ray, demonstrating the significant pneumothorax. Of note, the peripheral nerve block catheter can be identified above the pleura.

Discussion

- Pneumothorax is a rare complication of peripheral nerve block
 - Interscalene block - 0.2%³
 - Superior Trunk block - N/A
 - Supraclavicular block - 0.5-6% (more recent estimates at < 0.5%)⁴
- Pneumothorax can occur without peripheral nerve block (mainly case reports)⁵
 - Shoulder arthroscopy
 - Subacromial decompression
 - Reverse total shoulder arthroplasty
- Be vigilant for pneumothorax with or without peripheral nerve blocks
- With imaging and multi-disciplinary input, we provided post-operative pain relief for several additional days by determining safe placement of the catheter

References

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