



PRESENTER:
Seema Parikh, MD

Seema Parikh, MD¹, Parker Nguyen, MD¹, Caitlyn Ko, MD¹, Arun Kalava, MD²

(1) Rehabilitation & Regenerative Medicine, NY Presbyterian Columbia & Cornell, NYC, NY, USA;
(2) Anesthesiology, University of Central Florida, Tampa, FL, USA

TITLE: Limited Therapeutic Benefit of Phrenic Nerve Block in Five Cases of Intractable Hiccups: A Case Series

BACKGROUND

- Intractable hiccups (hiccups lasting ≥ 30 days) can significantly impact patient quality of life
- A few previous case reports have shown phrenic nerve block (PhNB) to be effective in treating post-surgical hiccups, but efficacy in other populations remains uncertain
- We present 5 cases where PhNB demonstrated limited to no therapeutic benefit

METHODS

1. This case series includes 5 patients who underwent US-guided PhNB for intractable hiccups between 01/2024 and 03/2024
2. Procedures were performed as off-label interventions using ropivacaine (0.25-0.33%) or lidocaine (1%) with perineural dexamethasone (4-8 mg).
3. Cases included both unilateral and bilateral nerve blocks



Phrenic nerve blocks provide limited therapeutic benefit for patients with idiopathic or certain post-procedural intractable hiccups

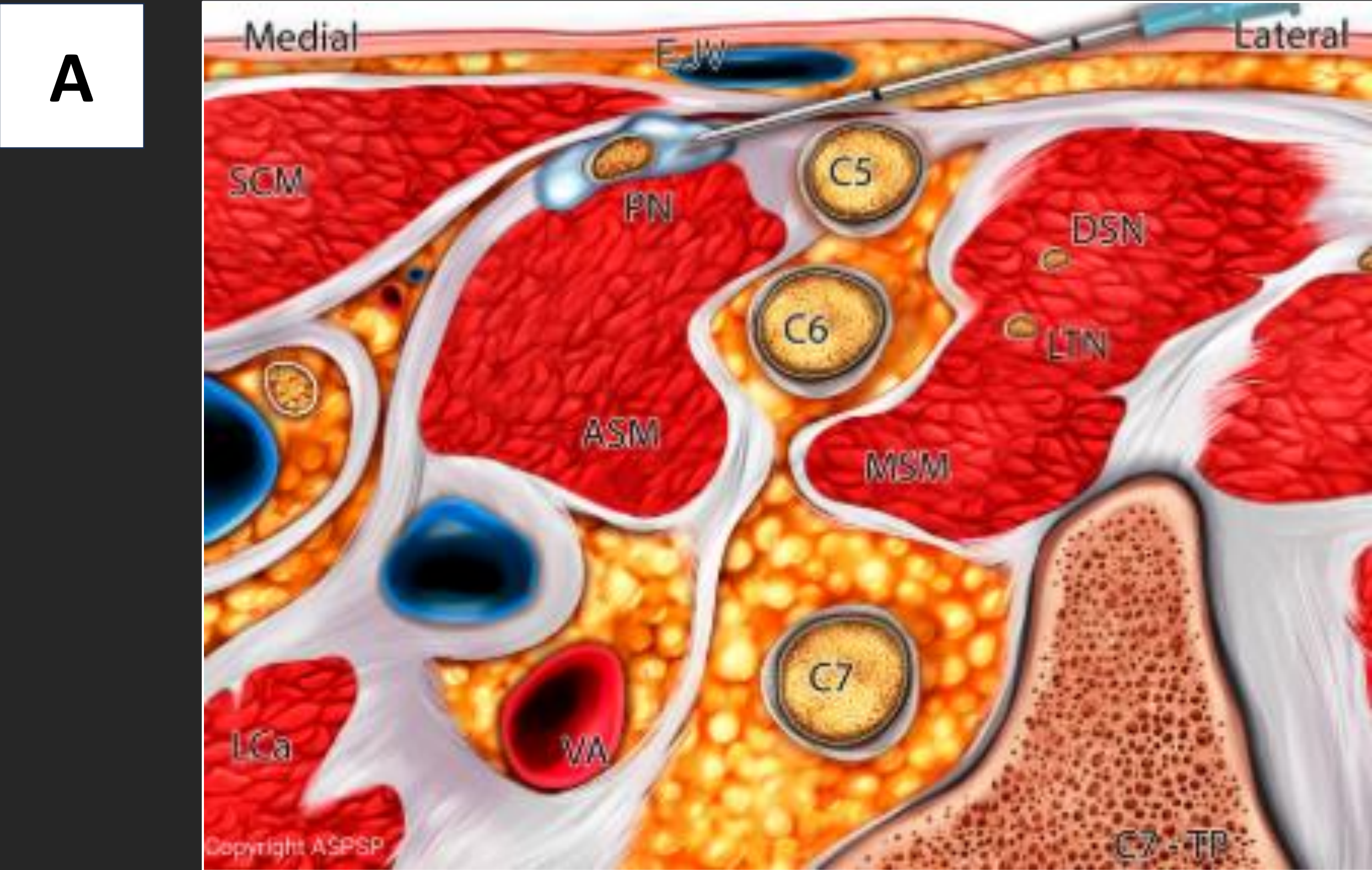


Figure A. Cross-sectional image of the anatomy surrounding the phrenic nerve

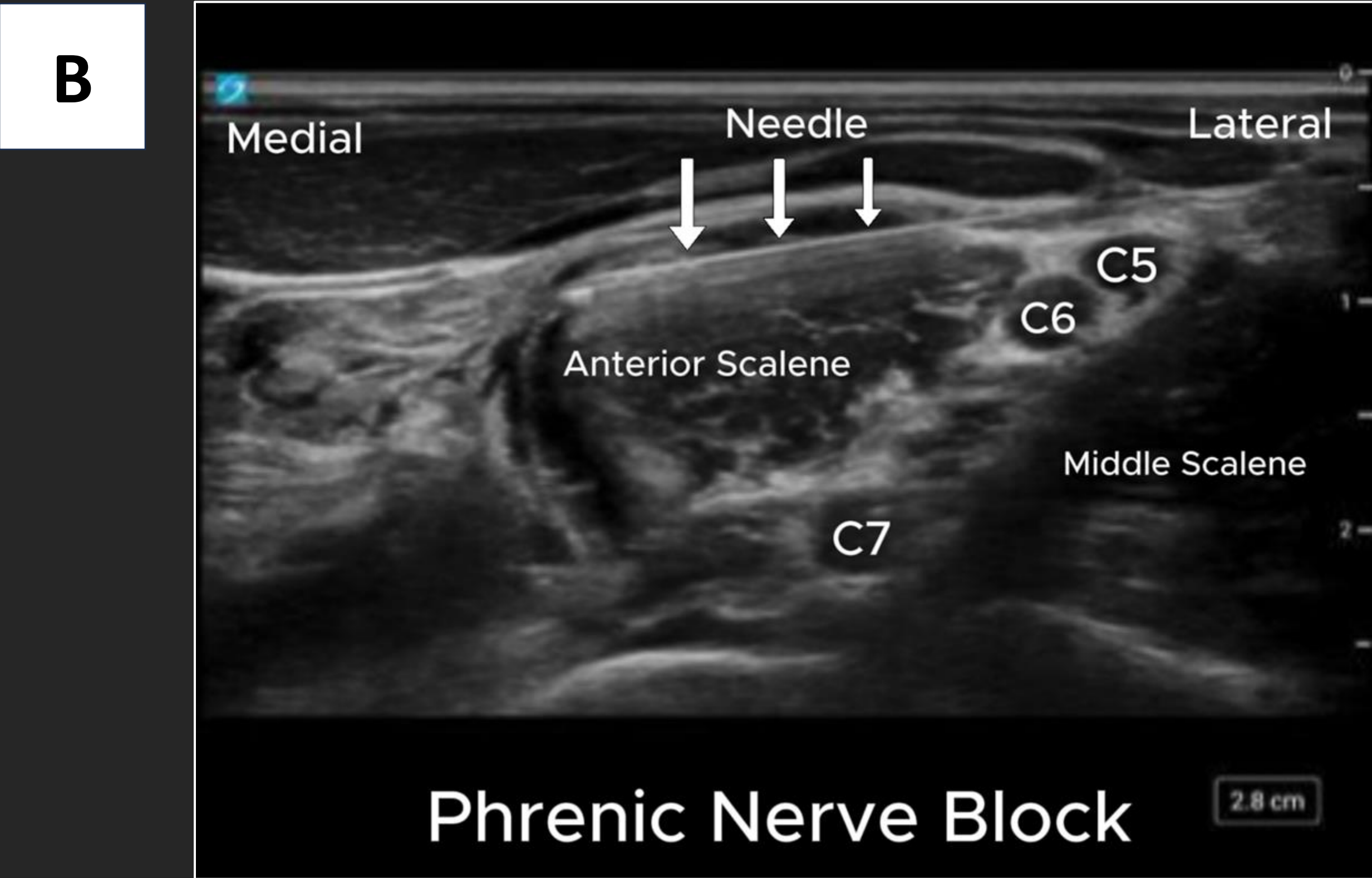


Figure B. Ultrasound image demonstrating right PhNB. Image labels anatomical landmarks including anterior and middle scalene muscles, cervical vertebrae (C5-C7), and needle trajectory (white arrows). The phrenic nerve is typically located anterior to the anterior scalene muscle.

RESULTS

Demographics	
Age	46 – 74 years (n=5)
Gender	Male (n=5)
Cause of intractable hiccups	Idiopathic (n=3), post-procedural (n=2, after atrial ablation and cortisone injection)
Outcomes	Temporary relief (8-12 hours) (n=3), Symptom exacerbation (n=1), Did not complete procedure due to anatomical variance (n=1)

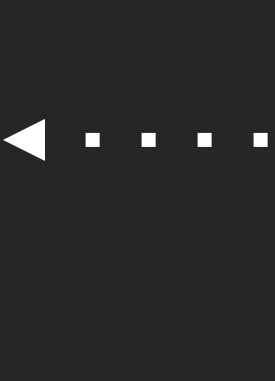
- 2 of the 3 patients who had temporary relief reported subsequent worsening of hiccup symptoms, while the other patient’s pain remained at the same level.
- Follow up interventions for patients included opposite side phrenic nerve block, peripheral nerve stimulation, and vagus nerve stimulation
- No patients experienced any respiratory complications from the PhNB procedure
- No noticeable differences between patients who received ropivacaine vs. lidocaine

DISCUSSION

- Therapeutic benefit of PhNB is limited in both idiopathic and post-procedural cases, contrasting with previous reports of success in post-surgical populations
- Anatomical variations may prevent successful block placement in some patients.
- Duration of relief is brief, suggesting need for alternative long-term management strategies and interventions

ACKNOWLEDGEMENTS

IRB exemption was obtained as per institutional policies for case series without PII. Patient informed consent was also obtained prior to submission of case series.



Take a picture to download the full abstract and references

