


Reconsidering Anatomical Targeting in Dorsal Scapular Nerve Hydro Dissection: Evidence from a Randomized Controlled Trial [Letter]

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Dear editor

The randomized controlled trial by Elawamy et al is an interesting read because the authors compared scalene against scapular methods of ultrasound-guided corticosteroid hydro dissection in cases of dorsal scapular nerve entrapment.¹

This paper discusses a clinical quandary, which has been the subject of debate over a prolonged period—anatomy versus pathophysiology in the choice of injection sites. The anatomical course and vulnerability of the dorsal scapular nerve, particularly its passage through the middle scalene muscle, has been well described in earlier anatomical and clinical studies.^{2,3}

The authors were able to show a significantly greater reduction in pain at rest and during movement at 1 and 3 months in the scalene (proximal) approach ($p < 0.001$), along with better fatigue scores and patient satisfaction. These findings are clinically significant, especially given the large effect sizes (maximum differences of up to 57 points on the VAS), suggesting not only statistical but also meaningful therapeutic superiority.

Mechanistically, the results of the study are highly consistent with the hypothesis that interventions targeting the primary site of entrapment yield better outcomes. The dorsal scapular nerve is most compressed within or around the scalene musculature,²⁻⁴ and proximal hydro dissection may directly address this underlying pathophysiology rather than producing only distal or indirect effects. Furthermore, ultrasound-guided nerve tracking techniques have enhanced the precision of such interventions, reinforcing the importance of anatomical targeting.⁵

Interestingly, the lack of substantial improvement in motor distal latency despite significant clinical recovery highlights a well-known phenomenon in neuropathic conditions—that symptomatic improvement may precede electrophysiological recovery. This underscores the importance of patient-reported outcomes as primary endpoints in interventional pain research.

Improvement in fatigue scores is another important contribution of this trial, particularly as fatigue showed progressive improvement over time in the scalene group. This aligns with existing evidence suggesting that effective pain modulation can positively influence fatigue, functional capacity, and psychosocial outcomes in chronic conditions.^{6,7}

While the study has several strengths, including a multicentric design, randomization, and blinded outcome assessment, certain limitations should be considered. The relatively short follow-up period (3 months), absence of a sham-controlled group, and inability to isolate the specific effects of corticosteroid versus hydro dissection warrant cautious interpretation. Additionally, operator-dependent variability in ultrasound-guided procedures remains an inherent challenge.^{5,8}

Future studies should focus on:

1. Long-term outcomes extending beyond 6–12 months.
2. Inclusion of sham-controlled designs to account for placebo effects.
3. Mechanistic studies distinguishing hydro dissection effects from pharmacological action.
4. Integration with physiotherapy-based rehabilitation approaches.



In conclusion, this trial provides Level I evidence supporting proximal (scalene) targeting in dorsal scapular nerve hydro dissection and has important implications for clinical practice. It shifts the paradigm from convenience-based to pathology-driven intervention strategies.

Acknowledgments

The author used artificial intelligence (ChatGPT, OpenAI) to assist in structuring and language refinement of this manuscript. All clinical interpretations, data synthesis, and final content were critically reviewed and validated by the author. The author takes full responsibility for the accuracy, integrity, and originality of the work.

Disclosure

The author reports no conflicts of interest in this communication.

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