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Evidence-based cervical facet consensus: access or outcome?

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Received 16 August 2021
Accepted 7 September 2021
Published Online First 11 November 2021

► http://dx.doi.org/10.1136/rapm-2021-103031

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To cite: Derby R, Stojanovic MP, Kennedy DJ. *Reg Anesth Pain Med* 2022;**47**:1–2.

The consensus questions are a testament to the importance of diagnosing and treating cervical facet pain.[1] Denervating a painful structure will structurally eliminate or significantly reduce index pain, but only if the innervated structure is a pain source and only if one does a proper job ablating the innervation. With those caveats, medial branch neurotomy (MBN) is the best technique available for managing chronic cervical facet pain, as no other proven equally effective non-surgical option exists.

Overall, the guidelines are exemplary, showing how the teamwork of experts from several leading Interventional Pain Medicine organizations can reach a consensus on complex, unresolved and controversial issues related to cervical facet pain. Moreover, the task was not easy. The evidence on many aspects of diagnostic or therapeutic modalities for cervical facet pain was incomplete or scarce. The results from studies were conflicting, and the philosophies of organizations did historically differ. To reach the consensus, the team reviewed and studied over 400 publications focused on cervical facet pain in search of the correct answers. They explored and debated in-depth on known, controversial topics and the new, emerging facts and ideas. The topics included clarification of several fundamental questions related to cervical facet pain, such as the role of history and physical examination, radiographic findings, conservative treatments, anatomical details, diagnostic paradigms, procedural techniques, the need for sedation, safety measures, to name a few. We wholeheartedly commend the group on such a monumental task.

The result was an agreement or partial agreement among organizations on most topics allowing for uniform guidelines to be composed and offered to practitioners.

Perhaps the most critical goal was to reach a consensus on safety. Given that guidelines need to allow for different but equally safe technical and procedural approaches, the consensus correctly addressed most primary safety issues. In particular, the use of appropriate imaging, visualizing real-time contrast injection, staying over the articular pillars as a safety backstop when advancing in the lateral position and using non-particulate injectates when near the vertebral artery. Because the spinal cord and its blood supply are often within reach of a 1.5 to a 2-inch needle inserted from the lateral approach, based on anatomy and common sense, we especially commend the census for recommending that one use a short narrow-gauge needle to help mitigate both arterial trauma and cord injection.

There is, however, one safety consensus concern that warrants further consideration. We point out that continuing or stopping anticoagulation is complex. The risk of discontinuing anticoagulants before one performs a cervical medial branch block (MBB) from either a lateral or the posterior approach with a 25-gauge needle would unlikely carry any more risk to arterial penetration than a lumbar MBB, for which guidelines recommend not stopping anticoagulants.[2] For A.O. and A.A. facet injections where the vertebral artery is closer to the joint and MBN performed with large gauge needles, physician judgment and consultation may be appropriate.

Besides the anticoagulant safety issue, the few gaps and ongoing disagreements in the consensus are primarily due to differences in technical practices and the differing opinions of how rigorous one should be in prognosticating MBN outcomes. Both questions lack definitive evidence to support the guideline recommendations completely but apparently enough evidence to convince most referees that technical accommodation and relatively unrestricted patient access with relaxed prognostic criteria will not drastically lower patient outcomes.

While studies show robust outcomes using parallel multisite and mutilesions with 18 or larger gauge radiofrequency needles or an equivalent large lesion radius device,[3] the use of a single 22-gauge needle positioned by sensory stimulation is still a common technique—the guidelines acknowledge the technique, perhaps justified by no published direct comparative outcome studies.

On the other hand, establishing the best medial branch block prognostic cut-off criteria percentages and the need for a confirmatory MBB is more difficult as no prospective cervical studies can unequivocally establish a specific ideal protocol. To effectively judge various MBB block protocols that, when coupled with a robust MBN technique, best predicts outcome yet maintains reasonable patient access, one needs prospective studies explicitly designed to answer the question.

While there is one prospective and one retrospective study designed to help establish prognostic criteria for the lumbar region, as discussed in the consensus document, no prospective studies of acceptable quality exist for the cervical.[4 5] However, we concede that the three published cervical retrospective studies correlating outcome to MBB results, also discussed in the document, show no apparent difference in MBN outcomes stratified by cut-off criteria.

Notwithstanding, the predominance of evidence from cervical randomized controlled trials and prospective outcome studies validate those patients selected for MBN based on dual comparative MBB providing 80% or more relief for the duration of the local anesthetic, and MBNs performed using multilesion with large gauge needles will achieve robust outcomes.[6] Not abiding by strict standards of selection and technique results in poor study outcomes.[7]

The downside of strict selection criteria is that a higher proportion of false-negative blocks may exclude some patients who might partially benefit from the MBN. Rather than argue details, we instead point out that the best evidence and the 'art of medicine' should merge when the decision is difficult. The clinicians should tailor the treatment to their individual patients' needs using their best judgment and available evidence. Every patient is different, with different expectations and tolerance to risk. As Hurley *et al* pointed out in these consensus practice guidelines: 'Unlike standards for which there is little room for deviation, guidelines tend to be more flexible and allow for variations based on physician judgment and unique patient characteristics, providing recommendations in areas of uncertainty.'

Finally, a failed MBN may not be due to prognosticating MBN relief nor due to a specific MBN technique. Instead, failure is due to missing the targeted medial branch, pain coming from adjacent levels or both. In these cases, repeat diagnostic MBBs are warranted after the failed MBN when there is still a high suspicion that the posterior elements are the primary cause of pain. As only one observational lumbar paper addresses this issue, more studies are needed to close this gap.[8]

In summary, evidence-based medicine is the foundation for these guidelines despite the inevitable need for consensus compromise when evidence is insufficient. Ideally, too, evidence represents the cornerstone of clinical practice, although not in isolation of experience. However, one should have no illusions that evidence can stop internal strife. As Mark Twain once said, 'Get your facts first, and then you can distort them as much as you please.'

Nevertheless, beyond ongoing differences of opinion on a few questions, the guidelines represent more than just a consensus. They are a detailed and extensively referenced review of the evidence pertinent to each question, acknowledging when evidence is non-existent, conflicting, arguable or suspect. The result is a comprehensive literature review trying not to endorse a particular bias, as physicians and their societies tend to be opinionated regarding their practice habits and recommendations.

We thank Brian Sites for graciously inviting us to write an editorial and providing a forum for discussing the cervical guidelines that emphasize inclusiveness over division.

Contributors The three contributing authors in collaboration wrote and edited the editorial.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

Provenance and peer review Commissioned; internally peer reviewed.

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