Editorial Commentary: Suprascapular Nerve Decompression Can Be Effective, But Should You Have the Nerve to Do It?

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Abstract: Isolated suprascapular neuropathy that requires surgical decompression is rare. Arthroscopic suprascapular nerve decompression is an effective treatment for correctly indicated patients, but identifying which patients would benefit from decompression is challenging. While good outcomes and low complication rates after arthroscopic suprascapular nerve decompression have been reported by expert surgeons, this procedure has potential for neurovascular injury in inexperienced hands. Given the rarity of the condition, the difficulty with accurate diagnosis, and the potential risks from surgical intervention, we believe that these patients are best treated in a tertiary referral practice.

See related article on page 499

Suprascapular neuropathy continues to be investigated as a cause of shoulder pain and most often is a result of concomitant pathology, such as a rotator cuff tear or a paralabral cyst. Isolated suprascapular neuropathy is less common, although the true incidence is unknown. The anatomic course of the nerve passing through the suprascapular and spinoglenoid notches allows vulnerability to traction, compression, or iatrogenic injury.[1,2] In the setting of associated pathology, treatment is focused on the underlying cause, such as rotator cuff repair or labral repair with or without cyst decompression. In the isolated setting without a causative lesion, nonoperative management is the mainstay of treatment. Arthroscopic decompression is a viable alternative if nonoperative management fails, but the scientific data remain limited. In "Clinical Outcomes of Arthroscopic Suprascapular Nerve Decompression for Suprascapular Neuropathy," the authors Nolte, Woolson, Elrick, Tross, Horan, Godin, and Millett reported on a series of 19 patients who underwent arthroscopic suprascapular nerve decompression and blunt neurolysis without major concomitant glenohumeral pathology.[3] We congratulate the authors on this study, which provides additional evidence for the potential efficacy of suprascapular nerve decompression in select circumstances.

Two recent systematic reviews in 2018 reported good patient-reported outcomes and low complication rates for suprascapular nerve decompression.[4,5] There are only 261 and 276 total cases in these 2 studies, indicating it is a rare pathology in the literature. The etiology of suprascapular neuropathy is variable, with spinoglenoid notch cyst in 42%, transverse scapular ligament compression in 21%, massive rotator cuff tear in 19%, spinoglenoid ligament compression in 6%, and suprascapular notch cyst in 4%.[4] In the absence of magnetic resonance imaging findings, the diagnosis can be challenging because symptoms often overlap with other shoulder pathologies. It can be difficult to determine who has isolated suprascapular neuropathy versus pain related to cervical radiculopathy, brachial neuritis, neurogenic thoracic outlet syndrome, or some combination of these pathologies. Electromyography has been reported to be a helpful addition for diagnosis but may be less sensitive in the absence of motor deficit.[6] We agree with Nolte et al.[3] that suprascapular nerve injection can be helpful in equivocal cases.

Millett et al.[7] and Lafosse et al.[8] have advanced the arthroscopic technique of suprascapular nerve decompression. The procedure itself can be performed without any special equipment and has been shown to have a

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low complication rate in their hands. The technique is reproducible and effective, but care and caution are essential when working around neurovascular structures. Questions remain as to the appropriate indications for surgical intervention and when the nerve requires direct decompression as opposed to purely addressing the concomitant pathology. In the cases of rotator cuff tear and spinoglenoid notch cyst from a superior labrum tear, there is compelling evidence that suprascapular nerve decompression is unnecessary in most cases.[9,10] Moreover, transverse scapular ligament release before rotator cuff repair with confirmation of free mobility of the suprascapular nerve after release can result in subtle nerve injury detectable on electromyography, even in expert hands.[10] While we do not decompress the suprascapular nerve at the time of rotator cuff repair, we do decompress any large spinoglenoid notch cyst that is causing compressive neuropathy even if we perform a SLAP repair.[11] We firmly believe that opening the lateral aspect of a large spinoglenoid notch cyst has negligible downside and ensures immediate relief of the compressive neuropathy, which is the indication for surgery in these patients.

In conclusion, isolated suprascapular neuropathy is a rare entity that, when correctly diagnosed, is safely and effectively treated with arthroscopic suprascapular nerve decompression in the hands of expert surgeons. Given the rarity of the condition, the difficulty with accurate diagnosis, and the potential risks from surgical intervention, we believe that these patients are best treated in a tertiary referral practice.

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