

Introduction

- Chronic shoulder pain affects millions of patients each year
- Scapulagia or “shoulder pain” is responsible for 16% of all musculoskeletal complaints in the healthy adult population (1)
- Common etiologies for scapulagia:
 - Rotator cuff injury
 - Subacromial impingement
 - Muscle/ joint overuse/strain
 - Post-surgical pain from procedures like a scapulothoracic arthrodesis, or cervical injuries causing nerve impingement
- Diagnosed through history, physical exams, and imaging
- Common treatments for chronic shoulder pain included physical therapy, pharmacologic agents such as NSAIDs, injections, and surgery
- The efficacy of peripheral nerve stimulation of the dorsal scapular nerve for scapulagia has not been widely researched and for this reason we are analyzing this case of dorsal scapular nerve (DSN) stimulation for management of atypical shoulder pain.

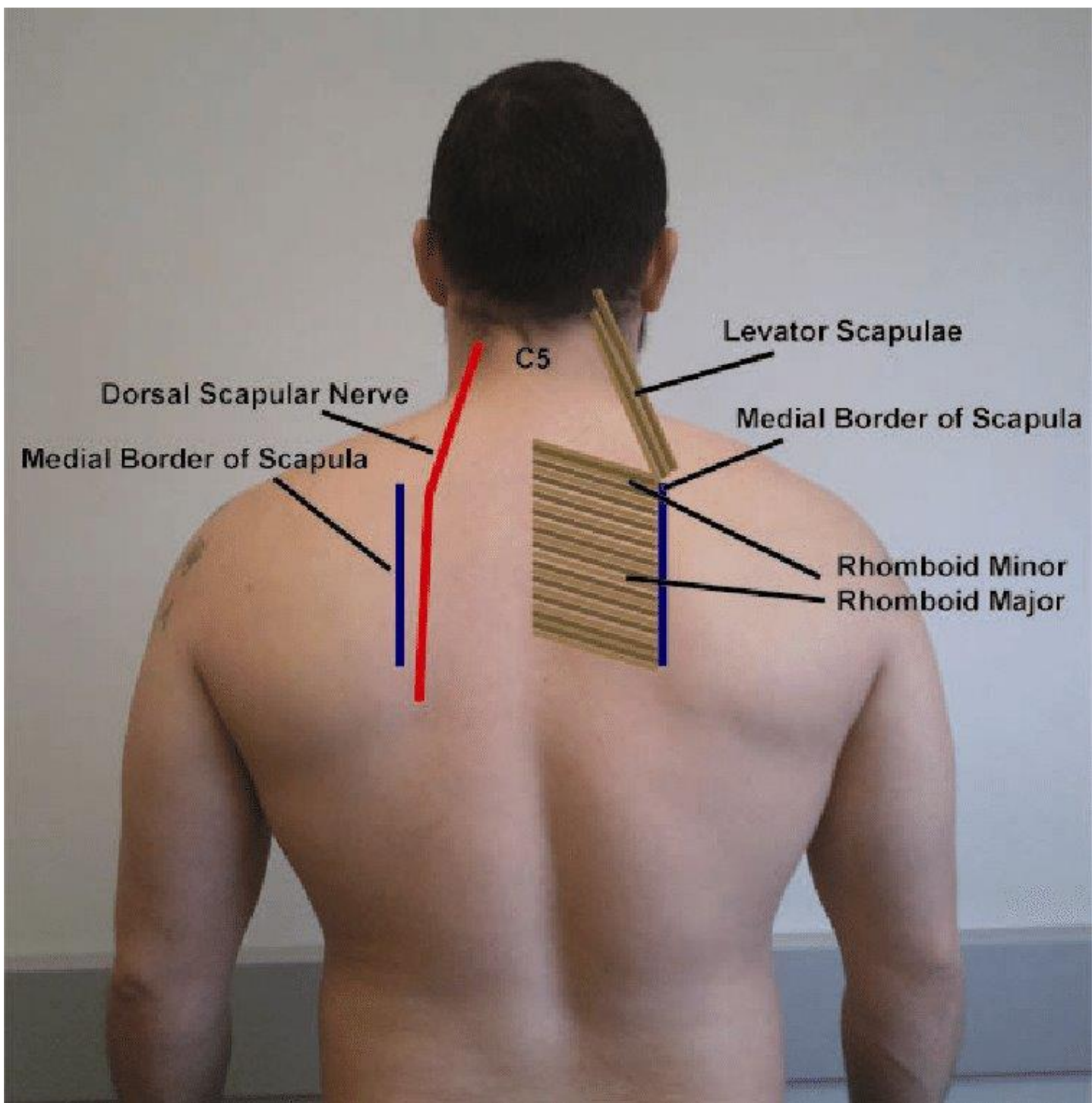


Figure 1. Pathway of dorsal scapular nerve

Case Presentation and Clinical Course

- 46-year-old female with PMH of Chiari malformation type I, neuroforaminal stenosis of the cervical spine, migraines with aura, small fiber neuropathy with history of mast cell activation syndrome
- Prior interventions
 - Trigger point injections
 - Right subacromial bursa injection
 - Barbotage procedure
 - Right directed C5-6 epidural steroid injection

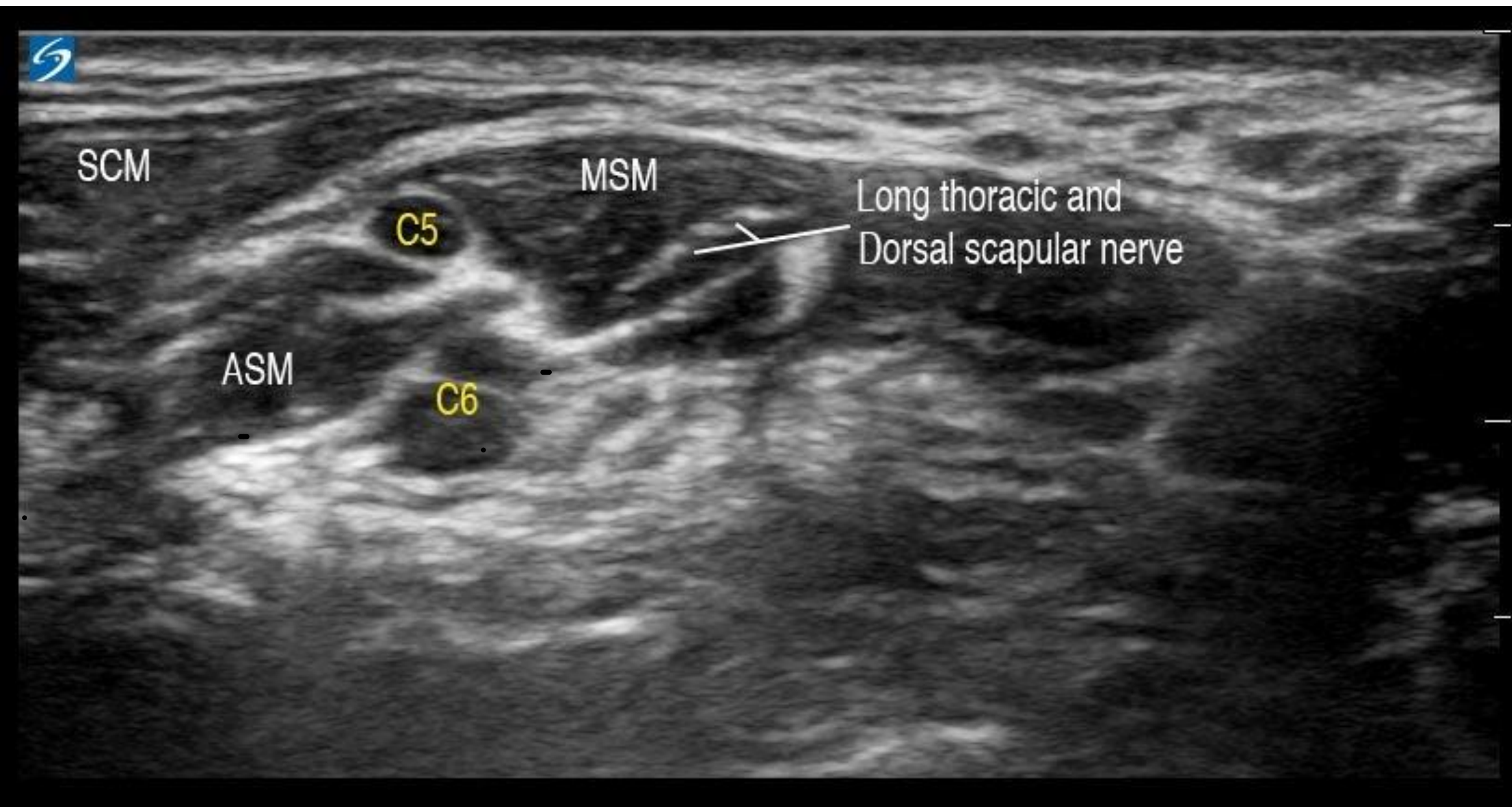
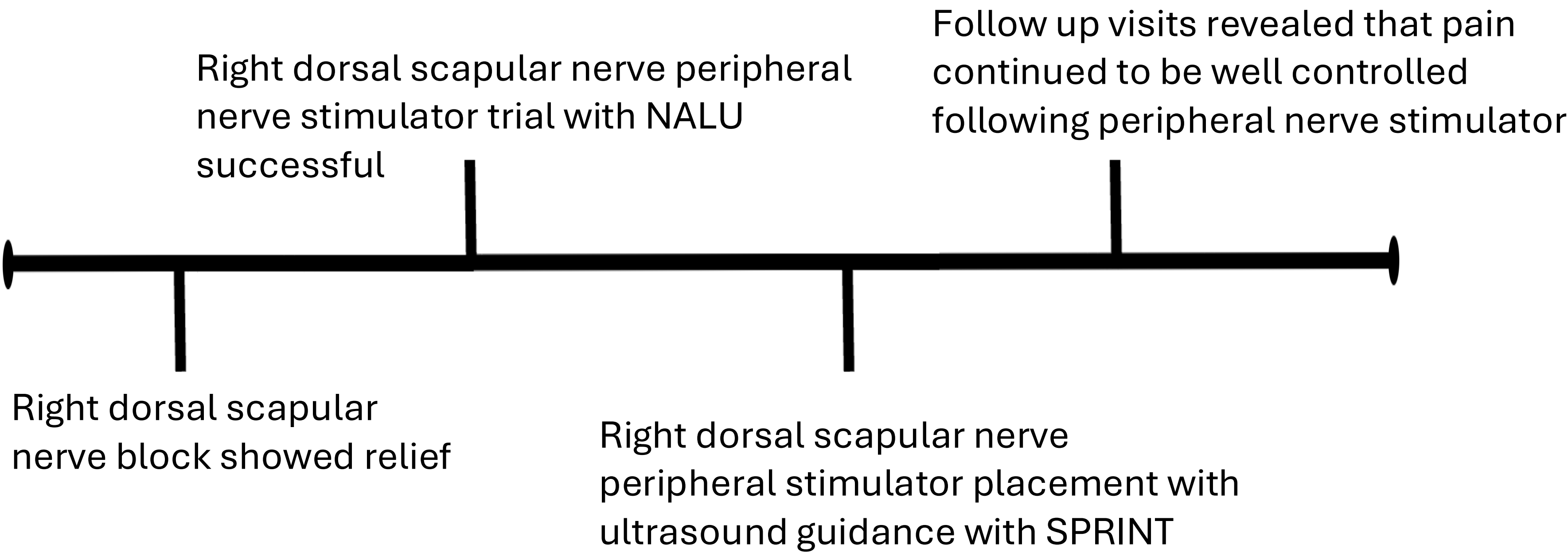


Figure 2. Ultrasound of dorsal scapular nerve and surrounding structures. ASM (Anterior scalene muscle), MSM (middle scalene muscle), SCM (sternocleidomastoid muscle)



Discussion

- Peripheral nerve stimulation (PNS) is a minimally invasive procedure where a small caliber is percutaneously implanted and delivers an electrical impulse to a peripheral nerve proximal to lesion that interferes with the pain signals
- Through application of a current on the peripheral nerve, large-diameter myelinated afferent nerve fibers are altered leading to interference of the central processing of pain signals through small-diameter afferent fibers at the level of the spinal cord (5). Studies have shown that peripheral nerve stimulation, when used for acute or chronic post-operative surgical pain, has been shown to be an effective adjunct following adequate screening and positive diagnostic nerve block or stimulation trial (4)
- Entrapment of DSN during surgeries is mainly due to the anatomy of the DSN
 - DSN courses along the middle scalene muscle, a common site of access for surgeries in the area

Conclusion

- Peripheral nerve stimulation of the dorsal scapular nerve proved to be an efficient treatment of atypical shoulder pain in this patient
- It is still important to emphasize the use of a multimodal pain regimen with patients for best results/ pain relief

References

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