



An unusual case of suprascapular nerve entrapment

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Abstract : Suprascapular nerve entrapment as a cause of shoulder pain in young adults is being increasingly reported of late. The rarity of this condition confounds the clinician in day to day practice and makes diagnosis difficult. Here we present a case of suprascapular nerve entrapment in a 27 year old male with diagnostic pointers and management options.

Keyword : spinoglenoid notch, suprascapular nerve, ganglion

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Introduction

Suprascapular nerve entrapment as a cause of shoulder pain is being increasingly reported in the past decade, due mainly to advances in diagnostic modalities^{1,2,4}. This is a condition seen commonly in young adults, especially athletes, who involve in overhead throwing activities. Due to the low frequency of the condition, it is very common to overlook this diagnosis in clinical practice^{1,2}. There are peculiar clinical signs and anatomical considerations which would guide the clinician to the right diagnosis.

Here, we present a case of suprascapular nerve entrapment in a 27 year old male and its management.

Case report

A 27 year old male presented to us with complaints of right sided shoulder pain for the past 5 months. The pain was insidious in onset, progressive and was present deep seated in the posterior aspect of his right shoulder. He complained of constant pain during entire range of shoulder motion. There was no history of preceding trauma or associated neck pain.

Patient gave history of physiotherapy for 5 months with no relief in symptoms. He was right dominant. He was an office goer by profession, but he played amateur cricket regularly and indulged in overhead throwing activities often.

Examination revealed wasting of infraspinatus of right side. Deep seated tenderness was elicited inferior to the acromion process posteriorly. Entire range of shoulder movements was possible

actively and painful. He had increased pain on cross body adduction. Cervical spine did not reveal any abnormalities.

Plain x ray of the affected shoulder did not show any irregularity. Due to the presence of muscle wasting and increased pain on cross body adduction, suprascapular nerve involvement was suspected and nerve conduction study was performed. Surprisingly, nerve conduction returned normal latency and amplitude in bilateral suprascapular and infraspinatus.

Finally, MRI of right shoulder was ordered to make the diagnosis. The results showed a ganglion in the spinoglenoid notch abutting suprascapular nerve.

Excision of ganglion was planned as our patient had symptoms of nerve compression even though nerve conduction was negative. Under GA, patient was positioned in left lateral position. Through transverse incision just inferior to scapular spine posteriorly, posterior fibres of deltoid were exposed and partially detached from scapular spine to expose the underlying infraspinatus. Infraspinatus was elevated off bony surface with blunt dissection and ganglion in spinoglenoid notch was visualized and excision was done. Branch to infraspinatus from suprascapular nerve was found to be free after excision. Deltoid was reattached to scapular spine.

Postoperatively, shoulder mobilization was started from the first day and patient reported immediate relief of pain. At 3 month follow up, he is completely pain free and able to perform shoulder movements without any hindrance. He plans to continue amateur sports.



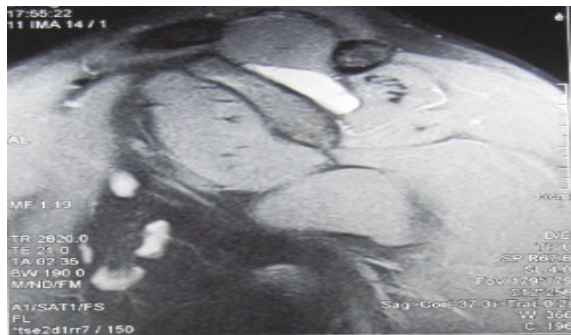


Fig 1: MRI pictures demonstrating ganglion in spinoglenoid notch



Fig 2: Intraoperative picture. Circle shows ganglion in spinoglenoid notch. Arrow points to Branch to Infraspinatus.

Discussion

Suprascapular neuropathy may be the result of traction injury in athletes, extrinsic compression, direct penetrating trauma or iatrogenic resulting from posterior shoulder surgeries². Nerve compression may occur at any of the two distinct sites: suprascapular notch and spinoglenoid notch^{1,2,4}. Traction injury is described to result from repeated overhead throwing activities causing apposition of nerve against suprascapular ligament in the confined spaces of suprascapular notch – the so called “sling effect”⁵. Extrinsic compression by a mass lesion such as ganglion, tumor, etc., is commoner at the spinoglenoid notch³. Compression at spinoglenoid notch can be identified clinically by localized tenderness, isolated wasting of infraspinatus, sparing of external rotation due to intact teres minor and posterior deltoid and sparing of abduction due to intact supraspinatus^{6,7}.

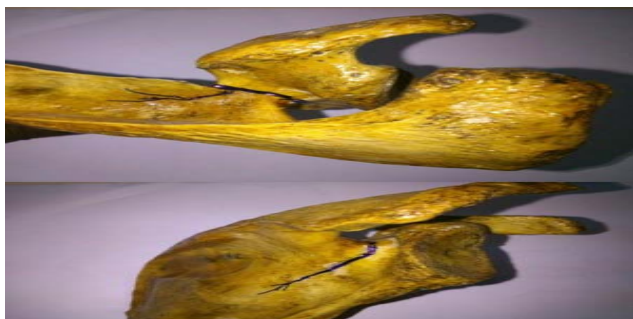


Fig 3: Schematic drawings on bone model showing the course of suprascapular nerve. A: Superior view showing course in suprascapular notch and branch to supraspinatus. B: Lateral view showing spinoglenoid notch and terminal part of suprascapular nerve supplying infraspinatus

Excision of ganglion is advised to release pressure on nerve when non operative management does not improve symptoms⁹. Surgery can be done by open means or by arthroscopy. Arthroscopy has the advantage of addressing capsulolabral tears in the same surgery as such tears have been found to be associated with ganglion cysts^{2,8}. In our case, MRI did not show communication of ganglion cyst with glenohumeral joint and hence open decompression was undertaken. Though our patient had normal nerve conduction study, his symptoms corresponded with suprascapular nerve entrapment and could not be attributed to any other pathology and were not relieved with physiotherapy. Ganglion in MRI revealed the cause of extrinsic compression and hence surgical decompression was performed. Surgery relieved all the symptoms and patient is pain free and has regained full function post operatively.

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