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Olgu Sunumu / Case Report

Suprascapular Nerve Injury at the Spinoglenoid Notch in a Washer Man: A Case Report

Yıkama İşiyle uğraşan Hastanın Spinoglenoid Notch'daki Supraskapular Sinir Hasarı: Olgu Sunumu

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ABSTRACT

Suprascapular Nerve injury is an uncommon cause of shoulder pain and weakness. Lesions of the Suprascapular Nerve can occur at the Supraspinatus or the Spinoglenoid Notch. We present here, report of a 26-year-old washer man who presented with pain in left shoulder and difficulty washing clothes. Clinical evaluation and electrodiagnostic studies confirmed injury to the left Suprascapular Nerve at the Spinoglenoid Notch. The patient was managed conservatively for six weeks with relative rest, supervised physiotherapy and non-steroidal anti-inflammatory drugs, following which he showed substantial reduction in pain and improvement in functional activities.

Key Words: Suprascapular Nerve injury, Spinoglenoid Notch**,** Electrodiagnostic studies, Pakistan

ÖZET

Omuz ağrısı ve kas zayıflığının pek sık rastlanmayan olmayan bir nedeni de Supraskapular sinir hasarıdır. Supraskapular sinirdeki lezyonlar, Supraspinatusda ya da Spinoglenoid Notchda ortaya çıkabilir. Burada yıkama işiyle uğraşan 26 yaşındaki hastanın sol omuzunda ağrı saptanmıştır. Klinik değerlendirme ve elektrodiagnostik çalışmalar; Spinoglenoid Notchda sol suprascapular sinirde hasar meydana geldiğini göstermiştir. Hastaya altı hafta boyunca dinlenme, denetimli fizyoterapi ve non-steroid anti-inflamatuar ilaçlar verilmiştir. Bunu izleyen süreçte hastanın fonksiyonel aktivitesinde gelişme ve ağrıda azalma gözlenmiştir.

Anahtar Kelimeler: Supraskapular sinir hasarı, Spinoglenoid Notch, Elektrodiagnostik çalışmalar, Pakistan.

INTRODUCTION

Shoulder discomfort and dysfunction is a common presentation in almost all age groups. Etiology of shoulder pain includes a wide range of local conditions among which Suprascapular Nerve injury is an uncommon cause[1]. The commonest reason for Suprascapular Nerve injury is its entrapment from a ganglion cyst at the Suprascapular Notch (SSN) or the Spinoglenoid Notch (SGN)[2]. Trauma, traction, sports, occupational activities and overuse are amid other causes[3]. We present here report of a washer man who was referred to our institute for electrodiagnostic (EDX) evaluation of left shoulder pain and weakness and discovered to have Suprascapular Nerve injury at the SGN.

CASE

A 26-year-old right handed washer man presented to us with the complaints of left shoulder pain with difficulty performing his job for the past

10 weeks. Patient did not give any history of trauma or numbness. The pain did not exacerbate by palpation or by passive shoulder movement. On detailed physical examination, patient had wasting of left Infraspinatus Muscle (Figure-1) and weak external rotation at the left shoulder joint. Sensations and deep tendon reflexes in left arm were normal. Plain Anteroposterior and Lateral radiographs of left Shoulder Joint did not reveal any abnormality.

Figure-1: Posterior view of left shoulder showing wasting of Left Infraspinatus Muscle

EDX evaluation was performed as per protocol. Motor nerve conduction studies (NCS) of Suprascapular, Musculocutaneous and Axillary nerves and sensory NCS of Median, Radial and Lateral antebrachial cutaneous nerves were performed on both sides. Proximal motor nerves were stimulated at the Erb's point with high stimulating currents. Monopolar needle recording electrodes were used to sample the Spinati muscles while surface electrodes were used to sample all other muscles. All motor and sensory NCS were found normal except for left Suprascapular Nerve, which showed a small compound muscle action potential (CMAP) amplitude while sampling left Infraspinatus muscle. Needle Electromyography (EMG) showed fibrillation potentials and positive sharp waves and large polyphasic motor unit action potential (MUAPs) with reduced recruitment in left Infraspinatus muscle. EMG study of Supraspinatus, Deltoid, Biceps, Trapezius, Serratus anterior, Rhomboids and C5 paraspinal muscles bilaterally was normal.

Based on history, physical examination and electrodiagnostic findings, impression of Suprascapular Nerve Injury (Axonal) at left Spinoglenoind notch was made. Patient was managed conservatively with relative rest, supervised physiotherapy and non-steroidal anti-inflammatory drugs for six weeks. Occupational

therapist advised him on activity and workplace modification. On follow-up, the patient showed marked reduction in pain and improvement in functional activity. Patient resumed his pre-injury activity by 10 weeks after therapy

DISCUSSION

The first reported case of Suprascapular nerve entrapment at the SGN was reported by Aiello I in 1981[4]. Compression by a ganglion, trauma, and certain occupational and sports activities are among the described causes. Sports that may consequence in such injury include weight-lifting, baseball, swimming, racquetball and volleyball[5,6]. Our case had an occupational etiology. Being a low resourced country, the washer men in Pakistan wash the clothes manually in a traditional way of repeatedly throwing the clothes over their back and next slapping them against a hard surface. During this act there is repeated abduction, external rotation and flexion at the shoulder joint, which may result in an insult to neurovascular structures around shoulder joint.

In a patient with a Suprascapular nerve Injury, the major challenge is to distinguish between entrapment at the SSN and the SGN so that surgery is done at the appropriate site and surgical failure is avoided[5]. Clinically, patients with nerve entrapment at SGN rarely present with pain and have wasting of Infraspinatus only. The shoulder external rotation is weak in such cases. On the contrary, pain is always the presenting complaint in SSN lesions; patients have weakness of both Spinati muscles and shoulder abduction is also weak[5].

Diagnosis of Suprascapular Nerve Injury can be made with Ultrasonography, Magnetic resonance imaging, NCS and EMG. Treatment options include both conservative management and surgical release. Most patients are treated conservatively and surgery stays an option for those with space occupying lesions in the area of SSN and SGN. Surgeries are also carried out in refractory cases not responding to conservative measures.

This case reinforces the idea that the mechanics of a work activity and not necessarily the acclaimed customary occupations and sports are the predisposing factors in a particular nerve injury. The detailed inquiry concerning work ergonomics is needed for digging out the diagnosis and formulating a management plan.

CONCLUSION:

Suprascapular Nerve injury ought to be a differential for patients with painful shoulder weakness. NCS/EMG is an indispensable tool in diagnosing, locating the site and measuring the damage to a nerve. Good functional outcome can be attained with conservative measures including modification of activity and workplace.

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