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COMPLETELY OSSIFIED SUPRASCAPULAR LIGAMENT - A CASE REPORT

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ABSTRACT

The suprascapular notch is bridged by the superior transverse scapular ligament, (suprascapular ligament) which is attached laterally to the root of the coracoid process of the scapula and medially to medial limit of the notch. The ligament is sometimes ossified. The suprascapular nerve passes below the ligament and enters the supraspinous fossa, whereas the suprascapular vessels pass backwards above the ligament. During routine osteological class for I MBBS students we came across a scapula with completely ossified suprascapular ligament. Suprascapular nerve is mostly susceptible for entrapment at the suprascapular notch. A narrow notch or a calcified ligament has been shown to cause increased risk of injury to the suprascapular nerve.

Keywords: Suprascapular notch, Transverse scapular ligament, Entrapment syndrome.

INTRODUCTION

The superior transverse scapular ligament (suprascapular ligament) converts the scapular notch into a foramen or opening. It is sometimes ossified. The ligament is a thin and flat fasciculus, which is narrow at the middle than at the extremities. It is attached by one end to the base of the coracoid process, and by the other end to the medial end of the notch. The suprascapular nerve passes through the foramen and the suprascapular vessels passes above the ligament[1]. After passing through the notch, the nerve enters the supraspinous fossa where it supplies supraspinatus and then shoulder capsule, glenohumeral and acromioclavicular joints. The nerve then supplies infraspinatous muscle after crossing the lateral margin of the scapular spine. Most suprascapular nerve entrapments occur at the suprascapular notch as a result of compression by the overlying suprascapular ligament[2].

Case report: During routine osteology class for I MBBS students in the department of Anatomy at KIMS Bangalore, we came across a scapula with completely ossified superior transverse scapular ligament with very narrow scapular foramen [Fig-1]. The ossified ligament's dimensions are superior border – 8mm, inferior border – 3.64mm and thickness – 4.40mm. No other deformities were found in the bone.

DISCUSSION

In some animals the suprascapular notch is frequently bridged by bone rather than a ligament, converting the notch into a foramen[3]. The incidence of bony foramen in scapulae varied from 0.3% to 13.6%, [where the superior transverse scapular ligament was completely ossified and scapular notch was closed][4]. Kopell and Thompson first described entrapment syndrome of suprascapular nerve at suprascapular notch. According to these authors the movement of abduction or horizontal adduction of the shoulder resulted in compression of the nerve against the ligament as quoted by Antoniadis G et al[5]. Gray found foramen in 73 out of 1,151 scapulae (6.34%) but among 87 Indian scapulae none had

foramen in them[6]. Cohen et al. described a familial case of calcified superior transverse scapular ligament, affecting a 58 years old man and his son too, causing entrapment neuropathy of the suprascapular nerve, clinical symptoms of pain, weakness, atrophy of supraspinatus muscle as quoted by Khan. Khan also reported a case of completely ossified superior transverse scapular ligament in an Indian adult male[3]. There are descriptions in the literature of bifid[7] and trifid[8] superior transverse scapular ligament, with former causing entrapment of suprascapular nerve.

Compared to other painful conditions on the shoulder, suprascapular nerve entrapment is an obscure and uncommon syndrome causing severe shoulder pain and disability. It is easily cured if is recognised[9]. An arthroscopic approach is a more sophisticated way of addressing the suprascapular nerve entrapment at suprascapular notch but a relative contraindication to arthroscopic release is transverse scapular ligament calcification or ossification[10]. The identification of the bony bridge is very important, because in these cases apart from dissecting the ligament the bony bridge must also be excised during the procedure, in order to achieve better post-operative results. Radiologists, Neurosurgeons and orthopaedic surgeons should be aware of ossified transverse scapular ligament, as it is necessary to identify and address it during the preoperative radiological examination or intra-operatively, since its existence alters the surgical technique during open or arthroscopic decompression of suprascapular nerve[11].

CONCLUSION

In the present case we are reporting a completely ossified superior transverse scapular ligament, with a very narrow scapular foramen in a south Indian adult which is significant in causing compression of suprascapular nerve.

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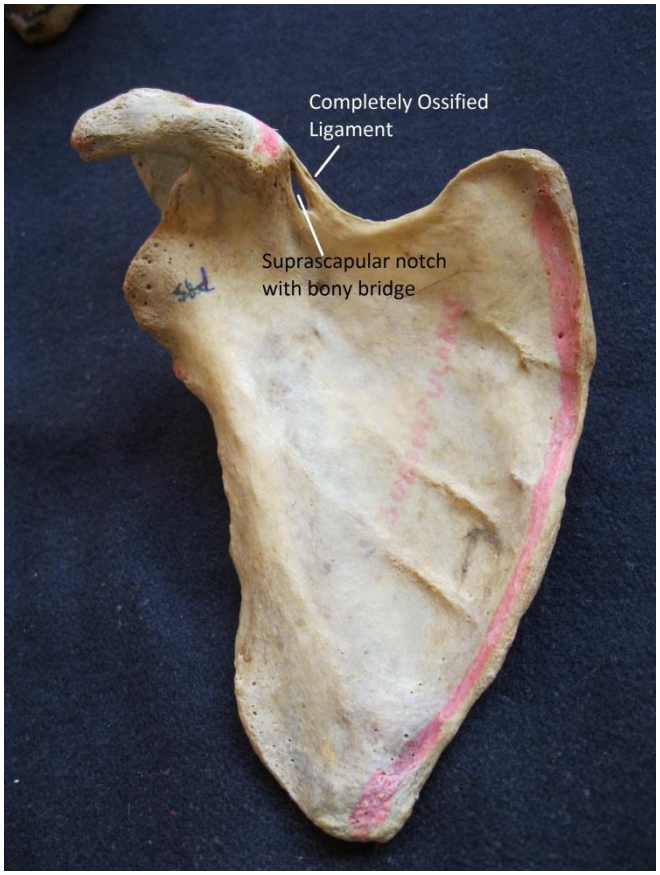

Figure 1: Scapula with completely ossified