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Case report

DOUBLE SUPRASCAPULAR FORAMINA: AN ANATOMICAL VARIATION

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ABSTRACT

Suprascapular notch transmit supra scapular nerve to the supraspinous fossa. Transverse scapular ligament bridges the notch to form a supra scapular foramen. This region is the most common location of supra scapular nerve injury & compression. Most important predisposing factor of supra scapular neuropathy is an ossified superior transverse scapular ligament. We report here a case of double supra scapular foramen found during our routine osteology demonstrations. The etiopathogenesis and clinical implications of such variations are discussed.

Keywords: Compression, Ossification, Suprascapular nerve, Transverse scapula ligament.

INTRODUCTION

Scapula is a triangular, flat bone situated in the postero-lateral part of chest wall ^[1]. Its superior border presents a supra scapular notch near the root of the coracoid process. Superior transverse scapular ligament bridges the notch to form a supra scapular foramen which transmits supra scapular nerve to the supraspinous fossa ^[2]. This region is the most common location of supra scapular nerve injury & compression. Most important predisposing factor of supra scapular neuropathy is an ossified superior transverse scapular ligament ^[3].

CASE REPORT

During the routine osteology class for the MBBS I phase students, in the department of anatomy, ESIC Medical College, Gulbarga, an anatomical variation of the supra scapular notch where two bony bridges converting it into a double supra scapular foramina was found in one left scapula. Dimensions of bony bridges and foramina were as follows:

Superior band: Length- 1.2cm, Thickness: Medially-4mm, Centre-3mm & Laterally-3mm

Inferior band: Length-1cm, Thickness: Medially-9mm, Centre-6mm & Laterally-10mm.

Superior Foramen: Transversely-10mm, Vertically-4mm.

Inferior Foramen: Transversely-7mm, Vertically 3mm. Both the foramina were transversely oval.

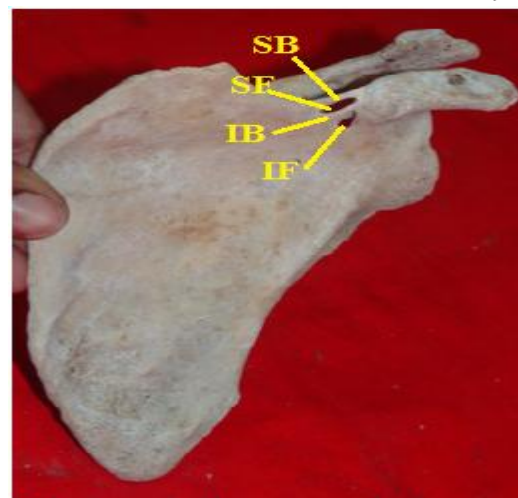


Fig1: Shows double suprascapular foramen .SB-Superior band, SF-Superior foramen, IB-Inferior band, IF-Inferior foramen

DISCUSSION

Suprascapular neuropathy is infrequent condition that occurs in only 1-2% cases of shoulder pain^[4]. Causes includes trauma caused by repetitive over head abduction in athletes and in volley ball players, rotator cuff tear, compression of the nerve at the suprascapular notch or spinoglenoid notch or by supraglenoid and paralabral cysts^[4]. The incidence of complete ossification of the STSL (superior transverse scapular ligament) depends on population and has been found to vary from 4 to 12.5%^[5]. A familial case of the ossification of the STSL causing entrapment neuropathy of the Suprascapular nerve affecting both father & son has also been described, suggesting that the ossification may have a genetic basis^[6].

Ticker et al., studied anatomy of Suprascapular nerve and demonstrated partial and complete ossification of supra scapular ligament and multiple bands including the first report of a trifid superior transverse scapular ligament^[7]. Alon et al., reported a case of bilateral Suprascapular nerve entrapment due to ossification of bifid Transverse scapular ligament in a female patient^[8]. Rengachary et al., classified Suprascapular notch into 6 types^[9].

Very few cases of double supra scapular foramen has been reported in literature till now. Michal P et al., studied 610 scapulae by 3D CT scan and found one case of double suprascapular foramen on left side in 56-year-old Caucasian female^[10]. Probable cause for the formation of double suprascapular foramen was also explained in their study which could be because of ossification of STSL & ACSL^[11], ossification of the bifid STSL, partial ossification of the trifid STSL or ossification of the bifid ACSL. The entrapment of the supra scapular nerve by the ossified STSL may result in symptoms like pain in the shoulder region and also result in wasting and weakness of supraspinatus & infraspinatus muscles.^[12]

CONCLUSION

Suprascapular neuropathy is an uncommon cause of shoulder pain and weakness and therefore is frequently misdiagnosed. As a consequence, misdiagnosis can lead to inappropriate conservative treatment or unsuccessful surgical procedure. It has to be differentiated from other conditions like rotator cuff tears. Knowledge of such an anatomical variation

will be helpful in arthroscopic & open procedures at the supra scapular region & also confirms safety of operative decompression for the supra scapular nerve.

Conflict of Interest: Nil

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