

Ossification of the superior transverse scapular ligament and its clinical importance

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ABSTRACT

The ossification of the superior transverse scapular ligament and the morphological variations of the scapular notch can lead to entrapment of the suprascapular nerve. During the study routine on the anatomy laboratory, it was found on a right scapula an ossification of the superior transverse scapular ligament, measuring 11.15 mm in length, 5.93 mm in height and 2.54 mm in depth. The ossification of the superior transverse scapular ligament surely seems to be an event responsible for the entrapment of the suprascapular nerve and some painful syndromes on the shoulder.

Keywords: anatomical variations, entrapment syndrome, ossification, suprascapular notch

INTRODUCTION

The suprascapular notch is converted into foramen by the superior transverse scapular ligament (STSL), where the suprascapular nerve passes by [1,2]. The ossification of this ligament (which can be partial or total), as well as the morphological variations of the notch can lead to the suprascapular nerve entrapment [3].

This nerve receives fibers from the nerve roots of C5 and C6 and occasionally from C4, providing motor innervation to the supraspinatus and infraspinatus muscles, and also branches for the coracohumeral and coracoacromial ligaments, subacromial bursa and cranioclavicular joint [4].

CASE REPORT

It was found on a right scapula an ossification of the STSL (Figure 1), of rectangular morphology, belonging to the anatomy laboratory of the Federal University of Sergipe.

The ligament had 11.15 mm of length (measured on the horizontal plane between its medial and lateral extremities), 5.93 mm of height (the distance, on the vertical plane, from the superior to the inferior margin) and 2.54 mm of depth (measured on the vertical plane between the anterior and posterior surfaces and its medial and lateral extremities). On the other hand the height of the suprascapular foramen was of 8.85 mm and its width, 5.63 mm.

DISCUSSION

The STSL is inserted from the base of the coracoid process to the medial border of the scapular notch, forming a foramen where the suprascapular nerve passes by [5]. This foramen was found in 10,3% of the population [6] and has been reported in several populational groups.[7-9]

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This agrees with what was found in the present study, in which was possible to observe a foramen in a pear shape with its apex facing up and right due to the ossification of the STLS on a right scapula.



Figure 1: Ossification of the superior transverse scapular ligament (red arrow).

According to Tubbs et al. [4] the most important predisposing factor for the entrapment of the suprascapular nerve is the complete ossification of the STSL. On their analysis, all ossified STSL cases would present signs of neural degeneration of the suprascapular nerve, what could in most cases lead to pain, weakness and atrophy of the supra and infraspinatus muscles [1,10,11].

The knowledge about this ossification is of fundamental importance not only to the clinic, but specially, as a reference, for surgeons on the treatment of patients with compression of the suprascapular nerve [12,13].

CONCLUSION

The parcial or complete ossification of the STSL can contribute in a significant way to the compression of the suprascapular nerve and cause painful syndromes on the shoulder.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

ACKNOWLEDGMENTS

None.

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RESUMO

Ossificação do ligamento transverso superior da escápula e importância clínica

A ossificação do ligamento transverso superior da escápula e as variações morfológicas da incisura escapular podem levar ao aprisionamento do nervo supraescapular. Durante a rotina de estudo no laboratório de anatomia foi encontrado em uma escápula direita, uma ossificação do ligamento transverso superior da escápula, que tinha 11,15 mm de comprimento, 5,93 mm de altura e 2,54 mm de espessura. A ossificação do ligamento transverso superior da escápula seguramente parece ser uma ocorrência responsável por compressão do nervo supraescapular e algumas síndromes dolorosas no ombro.

Palavras-chave: variações anatômicas, síndrome de aprisionamento, ossificação, incisura supraescapular