ORIGINAL RESEARCH PAPER

Volume-8 | Issue-8 | August - 2019 | PRINT ISSN No. 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SUPRASCAPULAR NOTCH AND ITS ANATOMICAL VARIANTS

Anatomy

Dr Nowsheeba Khurshid Senior Resident, Dept. Of Anatomy, SKIMS Medical College, Bemina

Dr Manmeet Kaur* Lecturer Dept. Of Anatomy Govt. Medical College, Srinagar *Corresponding Author

ABSTRACT

Introduction: The suprascapular notch is situated medial to the root of coracoid and covered by a variable transverse scapular ligament to form a suprascapular foramen, Various shapes of suprascapular notch are observed.

Material and Method: The material for the present study comprised of 30 adult scapulae of unknown sex, obtained from the Department of Anatomy, Skims Medical College, Srinagar. Various shapes of suprascapular notch are observed.

Result: Suprascapular notches of following shapes were observed: U, V, J. Some scapulae without notches and foramen were also seen.

Conclusion: shape of suprascapular notch is important to understand suprascapular nerve entrapment which causes the supraspinatus and infraspinatus muscles to waste.

KEYWORDS

Suprascapular notch , Variations , nerve Entrapment.

INTRODUCTION:

Word Scapula is derived from a Greek word Skaptein which means to – dig. Scapula, a large flat triangular bone is situated on the back of the body and plays an important role in forming the articular surfaces for shoulder and acromioclavicular joint.[1] The suprascapular notch is situated medial to the root of coracoid and covered by a variable transverse scapular ligament to form a suprascapular foramen. Within the foramen, the suprascapular nerve travelled through and, in some cases the anterior coracoscapular ligament was found . These features are of importance in suprascapular nerve entrapment which causes the supraspinatus and infraspinatus muscles to waste.[2]

MATERIAL AND METHOD:

The material for the present study comprised of 30 adult scapulae of unknown sex, obtained from the Department of Anatomy, Skims Medical College, Srinagar. Dry adult scapulae of either sex taken for study were free from physical deformity or abrasion and were complete in all respects.

Shape of suprascapular notch:

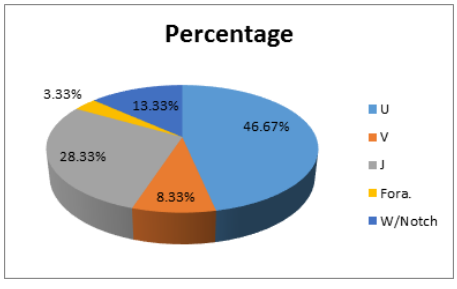
Suprascapular notches of following shapes were observed: U, V, J. Some scapulae were without notches and foramen was also seen. U shaped suprascapular notch is defined as having approximately parallel sides with rounded base. V shaped suprascapular notch is defined as having medial and lateral sides which converge toward a narrow base. J shaped suprascapular notch is defined as having medial and lateral sides parallel. Complete ossification of the superior transverse scapular ligament resulted in the formation of foramen.

RESULT:

Table 1: Shapes of suprascapular notches.

S. No.	Shape	Right(n=15)	Left(n=15)	Total	%age
1	U	08	06	**14**	46.67
2	V	2	1	**3**	8.33
3	J	3	5	**08**	28.33
4	Foramen.	0	1	**1**	3.33
5	Without Notch	2	2	**4**	13.33

Pie chart showing distribution of different types of shapes of suprascapular notches:



Discussion:

Shape of Suprascapular notch: For understanding of location and source of entrapment syndrome several morphological variations and classifications of the suprascapular notch were reported. These features are of importance in suprascapular nerve entrapment which causes the supraspinatus and infraspinatus muscles to waste.

TABLE 2:

Authors	U	V	J	Foramen	Without notch	Indentation instead of notch
Ticker[3]	77%	23%	-	-	-	-
Natsis[4]	-	-	-	7.3%	8.3%	-
Duparc[5]	63.3%	36.7%	-	-	-	-
Iqbal[2]	13.2%	20%	22%	-	18%	26.8%
Soni[6]	58%	7%	27%	3%	2%	3%
Mahdy[7]	76.7%	13.56%	10.17%	-	-	-
Mahato[8]	-	-	-	-	19.64%	-
Present	46.67%	8 .33%	28.33%	3.33%	13.3%	-

Two oldest classifications of the type of suprascapular notch were introduced by Hrdlicka (1942) and Olivier(1960). Hrdlicka (1942a) was first to separate the suprascapular notches into five types based on visual observations. Olivier (1960) also described five types of suprascapular notches. Rengachary et al., (1979) classified suprascapular notches into six types. Ticker et al., (1998) study mentioned only about U and V shaped notch types and results of their study are higher than the present study. Natsis et al., (2007) proposed a new method of classification based on specific geometric parameters. Results of Natsis et al., (2007) are higher in case of values of foramen but less in case of values of without notch scapulae. In a study conducted by Iqbal et al., 2010) results were higher in case of V shape notch and foramen while less in case of U shape notch and J shape notch. Mahdy et al., (2013) also conducted a study on suprascapular notch The results of present study are higher in case of values of J shape notch but less in case of U and V shape notch. Mahato et al., (2013) studied only complete absence of notch and results of their study were slightly higher than present study. Results of present study corresponds with that of Soni et al., (2012) with respect to V shape notch, J shape notch and Foramen, except for U shape notch values of which are on lower side when compared to Soni et al., (2012).

CONCLUSION:

1. U,V, J type of suprascapular notches were seen .
2. In some cases foramen were seen instead of notch, while some bones were without notches and foramens.
3. U shaped notches were mostly seen in present study which goes with the previously held studies.

Hence shape of suprascapular notch is important to understand

suprascapular nerve entrapment which causes the supraspinatus and infraspinatus muscles to waste.

REFERENCES:

1. Piyawinijwong S,Sirisathira N and Chuncharunee A.The scapula: OsseousDimensions and Gender Dimorphism in Thais.Siriraj Hosp Gaz.2004; 56(7):356 -65
2. Iqbal K, Iqbal R and Khan SG. Anatomical variations in shape of suprascapular notch of scapula. J. Morphol. Sci. 2010; 27(1):1-2
3. Ticker JB, Djurasovic M, Strauch RJ et al.The incidence of ganglion cysts and other variations in anatomy along the course of the suprascapular nerve. Journal of shoulder and Elbow Surgery .1998 ;7(5):472-8.
4. Natsis K, Totlis T,Tsikaras P, Appell HJ, Skandalakis P and Koebke J. Proposal for classification of the suprascapular notch : a study on 423 dried scapulas. Clin Anat 2007; 20 (2): 135-9.
5. Duparc F, Coquerel D, Ozeel J, Noyon M, Gerometta A and Michot C. Anatomical basis of the suprascapular nerve entrapment and clinical relevance of the supraspinatus fascia. Surg Radiol Anat.2010;32(3): 277–284.
6. Soni G, Malik VS, Shukla L, Chabbra S and Gaur N. Morphometric Analysis of the Suprascapular Notch. The Internet Journal of Biological Anthropology. 2012; 5(1). DOI: 10.5580/2b19.
7. Mahdy AA and Shehab AA.Morphometric Variations of the Suprascapular Notch as a Potential cause of Neuropathy:Anatomical Study J Am Sci.2013;9(3):189-197.
8. Mahato RK and Suman P. Complete Absence of the Suprascapular Notch: A risk factor for suprascapular nerve entrapment neuropathy. Jr. of evolution of Medical and Dental Sciences 2013; 2, (25), 4542-7