

Case Report:

Variant Musculo-tendinous Slip between Teres major and Triceps brachii

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Abstract: A variation of the muscles of the scapular region is a very rare finding. During the routine dissection for the undergraduates, a variant short musculo-tendinous slip in between the teres major and the long head of triceps brachii muscles was seen. This slip could cause compression of the underlying brachial vessels and the cords of brachial plexus. Therefore this type of variation is worthy of being noted by the surgeons.

Key Words: Limb bud; Myogenic cells; Scapula; Teres major; Triceps brachii

Introduction:

Teres major is a rounded muscle situated in the scapular region. It arises from the dorsal surface of the inferior one-third of the lateral margin scapula. The fibres pass laterally in front of the long head of triceps brachii and inserted into the medial lip of intertubercular sulcus of humerus.(1) It mainly adducts and medially rotates the arm at the shoulder joint. Not many variations of teres major muscle are found in the literature.

Case Report:

During the routine dissection class for the undergraduates, a bulky teres major muscle was found in the scapular region of the right upper extremity in a 45-year-old male cadaver. The other scapular muscles were normal. The teres major muscle took origin from the dorsal surface of the entire lateral border of scapula. The course of the muscle and its insertion was as usual. A musculo-tendinous slip, measuring 2.8cms in length, was observed between the fibres of teres major (close to its insertion) and the long head of triceps brachii (close to its origin). The fibres in the slip were spirally arranged. The

fibres of teres minor took origin from a narrow area at the root of the spine of scapula (Figure 1).

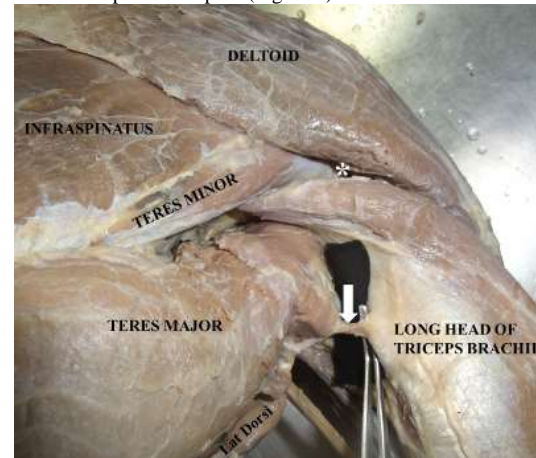


Figure 1: Photograph of the right scapular region showing the muscles. Lat Dorsi – Latissimus dorsi, White arrow – musculo-tendinous slip, White asterisk – Quadrangular space.

The quadrangular space in the present case was narrow due to the twisted arrangement of the fibres of long head of triceps brachii.

Discussion:

Variations of the muscles of the arm, forearm and hand have been well documented in the literature. But there is paucity regarding the variations of the muscles of the scapular region.

Iaamsard et al., described that the fibres of teres major are inserted directly to the supero-medial border of latissimus dorsi.(2) In our case, the muscle had a usual insertion. A muscular slip has been observed joining the scapular head of triceps.(3) A similar slip was seen in the present case (Figure 1).

Extended insertion of teres minor into the postero-superior and lateral portions of capsule of the shoulder joint and surgical neck of humerus has been reported by Jain et al.(4) In the present case, teres minor muscle took origin from a narrow area at the root of the spine of scapula.

Developmental importance: The musculature of the limb is derived from myogenic cells that migrate very early into the limb bud from the ventral part of dermomyotome of the somite. This migration is due to the stimulus of scatter factor, which is produced by the proximal cells of the limb-forming area. The migrating cells keep pace with the elongation of the limb bud. Shortly after the condensation of the skeletal elements take shape, the myogenic cells themselves begin to coalesce into two common muscle masses: one the precursor of flexor muscles and the other giving rise to extensor muscles. The next stage in muscle formation is the splitting of the common muscle masses into anatomically recognizable precursors of the definitive muscle of the limb. Thus we get a dorsal and a ventral muscle mass.(5) The teres major and triceps brachii develop from the dorsal muscle mass and the musculo-tendinous slip persists due to the common development of these two muscles.

Clinical significance: The musculo-tendinous slip in the present case could compress the vessels and nerves supplying the arm and the forearm region. This could lead to loss of cutaneous sensation of the proximal and distal parts of the upper extremity. Compression of the radial nerve could also lead to partial paralysis of the muscles supplied by it.

The quadrangular space in the present case was narrow due to the twisted origin of triceps brachii muscle. This could lead to the compression of the axillary nerve and posterior circumflex humeral vessels leading to a condition called quadrilateral space syndrome.(6) Compression of the axillary nerve may lead to partial atrophy or weakness of teres minor and deltoid muscles. This is manifested through loss of abduction and external rotation of humerus. Paraesthesia may also occur in the areas of the skin supplied by axillary nerve. Therefore, the knowledge of such musculo-tendinous slip is of utmost importance for the surgeons while performing surgery on the muscles of the upper extremity. The paralysis and loss of cutaneous sensation of the upper extremity may be attributed to the presence of such musculo-tendinous slip.

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