

## Accessory Slip of Coracobrachialis: An Anatomical Variation

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**Abstract:** Coracobrachialis muscle arises from the tip of the Coracoid process of scapula, blends medially along with short head of Biceps brachii and is usually inserted into the medial border of the middle of the shaft of humerus. The mesenchyme of lateral plate mesoderm differentiates to form muscles of the limb bud. They usually fuse together and lead to the formation of a single muscle bulk. Failure of normal fusion of the different layers of muscle accounts for the accessory insertion. During performing routine dissection in the anatomy department of RIMS, Imphal, accessory slip in addition to the main bulk of the coracobrachialis muscle was noticed. It arose from the tip of the coracoid process of scapula and was inserted in the distal part of the lesser tubercle of the humerus in addition to its normal insertion at the medial border of the middle of the shaft of humerus. The neurovascular bundle passing below the accessory slip may be compressed due to anomalous insertion producing vascular spasm and median nerve palsy. Knowledge of the anatomical variation is important for radiologists and for surgeons in case of invasive surgeries for proper decision.

**Keywords:** Coracobrachialis, accessory slip, median nerve palsy, graft

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### I. Introduction

Coracobrachialis muscle arises from the tip of the Coracoid process of scapula, blends medially along with short head of Biceps brachii and is usually inserted into the medial border of the middle of the shaft of humerus. The musculocutaneous nerve is the nerve supply to this muscle and it pierces the muscle while supplying it<sup>1,2</sup>. The mesenchyme of lateral plate mesoderm differentiates to form muscles of the limb bud. They usually fuse together and lead to the formation of a single muscle bulk. Failure of normal fusion of the different layers of muscle accounts for the accessory insertion<sup>3</sup>. Another view is that some muscle primordia actually disappear through cell death despite the fact that cells within them have differentiated to the point of containing myofilaments. In addition, failure of such disappearance of muscle primordial during embryological development may lead to accessory slip formation<sup>4</sup>.

### II. Objective

Present study has been done to gain knowledge of the anatomical variation, which is important for radiological studies as well as for avoiding complications during invasive surgeries.

### III. Case Report

During routine postgraduate dissection of a 55 years old male cadaver in Anatomy Department of Regional Institute of Medical Sciences, Imphal, we observed an accessory slip in addition to the main bulk of the Coracobrachialis muscle in the right upper limb. Length of the slip was 22 cm and diameter 0.3 mm. The left limb was having normal variant. Accessory slip in addition to the main bulk of the Coracobrachialis muscle arose from the tip of coracoid process of scapula and was inserted in the distal part of the lesser tubercle in addition to its normal insertion at medial border of the middle of the shaft of humerus. The Median Nerve and Brachial artery passed deep to this accessory slip.

### IV. Discussion

Accessory slips of Coracobrachialis may have various places of insertion including in lesser tubercle, medial intermuscular septum or medial epicondyle.<sup>5</sup> An anomalous insertion of Coracobrachialis in distal location than usual has been termed as *Coracobrachialis Longus* or *Coracobrachialis inferior* and often also referred as Wood's muscle. The main bulk of Coracobrachialis in *Homo sapiens* is a remnant of the Coracobrachialis medius and *Wood's muscle* or *Coracobrachialis Longus* represents the third part of the muscle. There remains a resemblance of Coracobrachialis muscle with adductor muscle of lower extremity<sup>6</sup>. The short upper part corresponds to Adductor Brevis<sup>5</sup>, the medial portion to Adductor longus<sup>1</sup> and long inferior portion to Adductor Magnus<sup>2</sup>. Tricipital origin of Coracobrachialis is found in lower animals and the lower head is

suppressed in man and may persist as a fibrous band called *Ligament of Struthers* which is found in <2% of mammals. It extends from the supratrochlear spur from anteromedial part of lower part of humerus to medial epicondyl<sup>3, 5</sup>. The vessels and nerves passing below the accessory slip may be compressed producing ischemic features of forearm & entrapment features of the nerve respectively<sup>7</sup>.

### V. Conclusion

Knowledge of the variation is important for radiologists and in invasive surgery for proper decision. Anatomical variations of coracobrachialis muscle can be confused with other muscle and pathological condition at CT and MRI scan<sup>8</sup>. Such accessory slips may be used in graft surgeries. Abnormal insertion of the Coracobrachialis muscle should be kept in mind in a patient representing high Median nerve palsy<sup>7</sup>. Accessory slip might lead to wasting or ischemic contraction of flexors of the forearm. Knowledge of this variation is important to note during the active use of coracobrachialis as a transposition flap in deformities of infraclavicular and axillary areas and in post-mastectomy reconstruction surgery<sup>9</sup>. Care should also be taken during surgical intervention of the anterior compartment of the arm, such as trauma, tumour, neurovascular disease; while using coracobrachialis as a vascularised muscle for transfer in cases of the treatment of longstanding facial paralysis<sup>10</sup>.

### Reference

- [1]. Stranding.S. Gray's anatomy. Churchill Livingstone Elsevier: New York; 2008.
- [2]. McMinn RMH. Last's Anatomy: Regional and applied. Churchill Livingstone Elsevier: Edinburgh;1990.
- [3]. Guha R, Satyanarayan N, Ready CK et al. Variant insertion of coracobrachialis muscle- morphological significance, embryological basis, and clinical importance. *J. Coll. Med. Sci. Nepal 2010*; 6:42-46.
- [4]. Gessini L, Jandolo B, Pietrangeli A. Entrapment neuropathies of the median nerve at and above the elbow. *Surg Neurol 1983*; 19:112-116.
- [5]. Datta AK . The Arm. In: Essentials of human anatomy. Part III. 4<sup>th</sup> edition. Current Books International, Kolkata; 2009:59-60.
- [6]. Wood J. On human muscular variations and their relation to comparative anatomy. *J Anatomy Physiol 1867*; 1:44-59.
- [7]. Potu BK, Rao MS, Nayak SR et al. Variant insertion of coracobrachialis muscle in a south karnataka cadaver . *Cases Journal 2008*; 1:291.
- [8]. Kumar N, Shetty SD, Somayaji SN et al. Presence of accessory coracobrachialis and its clinical importance – A case report. *Int J Anat Var 2012*; 5:27-28.
- [9]. Kopuz C, Icten N, Yildirim M. A rare accessory coracobrachialis muscle: a review of literature. *Surg Radiol Anat 2004*;24:406-410.
- [10]. Taylor GI, Cichowitz A, Ang SG et al. Comparative anatomical study of the gracilis and coracobrachialis muscles: implications for facial reanimation. *Plast Reconstr Surg 2003*; 112:20-30.



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