

UNILATERAL VARIATION OF BICEPS BRACHII MUSCLE PRESENCE OF THIRD HEAD - A CASE REPORT

Navaneeth K. P.¹, G. M. Kanthi², S. Narayanan³, Danie George⁴, Anju Thomas⁵

¹Assistant Professor; ²Professor; ³Assistant professor; ⁴Assistant professor; ⁵Associate Professor;
Department of Shareera Rachana, SDM College of Ayurveda and Hospital, Hassan, Karnataka, India

Email: navaneethkp23@gmail.com

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ABSTRACT

Biceps brachii is a muscle of anterior compartment of the arm. It consists of two heads short and long. Long head originates from the supra glenoid tubercle of scapula and short head arises from the tip of coracoid process along with coraco brachialis muscles. During routine PG dissection in the department of Shareera Rachana AAMC Moodbidre, a variation of third head of the biceps was found. Third head originated from antero medial surface of upper part of shaft of humerus. It was examined for its origin, insertion and course with innervations by vessels. The study of this variation is discussed in this paper.

Keywords: Biceps brachii, Third Head, short and long Head.

INTRODUCTION

Biceps brachii is the flexor muscle of the arm belongs to anterior compartment which acts on both the joints i.e shoulder and elbow joints. It is one of the most variable arm muscles in the human body, characteristically described as a two headed muscle that originates as a long head and short head.¹ Long head originates from the supra glenoid tubercle of scapula and short head arises from the tip of coracoid process along with coraco brachialis muscles.¹

These two heads unites to form a fleshy part, forms as tendon and aponeurosis part at its insertion. The tendon inserts to the radial tuberosity, in the bicipital aponeurosis which merges with deep fascia and cap-

sule of elbow joint. Flexion and supination of the forearm is the action of this forearm muscle. It is innervated by the musculocutaneous nerve and supplied by brachial and anterior circumflex humeral arteries.²

It has been reported that in 10% cases the third head of biceps may arise from the supero medial part of brachialis and is attached to bicipital aponeurosis and medial side of tendon insertion.³ The third head found most frequently arise from the interval between the insertion of coracobrachialis and origin of brachialis from the anterior surface of humerus.⁴

In the present case we report that the third head of biceps brachii muscle taking the origin from below the neck of the humerus in the anteromedial surface of the shaft later merged with tendon of biceps brachii at its insertion. The muscle was innervated by musculocutaneous nerve and supplied by brachial and anterior circumflex humeral arteries.

CASE REPORT-

During our routine PG dissection of 65yr aged male cadaver we encountered a variation of biceps brachii muscle in the right arm. The right arm was fully dissected along its length layer by layer following skin, fascia, muscles we observed the biceps brachii muscle which has three heads, one long , one short and the third head. We dissected the whole muscle and observed its proximal and distal attachment and its

course in detail. Other structures like nerves, vessels were also exposed. The third head which Biceps muscle has other than long and short heads traced clearly and identified its origin, insertion and innervations.

OBSERVATION AND RESULT:

The biceps muscle of right arm has three heads one long head originated from supra glenoid tubercle, short head from tip of coracoid process, the third accessory head originated from below the neck of the humerus in the anteromedial surface of the shaft and assimilates with the common tendon of biceps brachii. Muscle was innervated by musculocutaneous nerve and supplied by the brachial and anterior circumflex humeral arteries. Variation in the present case was found in the right arm of male cadaver.

Fig 1: Dissection of biceps brachii muscle



Fig 2: Biceps brachii muscle with third head

DISCUSSION

Many variation in related with the origin of different number of heads of the biceps brachii muscle are established in literature. They manifest as a cluster of accessory fascicles arising from the coracoid process, pectoralis minor tendon, proximal head of humerus or articular capsule of humerus.³ The reported morphological variation of biceps brachii muscle include absence of short head; two heads remain separate for entire length of the muscle, the muscle split for 3/4th of its course, doubled long head, presence of supernumerary or accessory head.⁴

It is presumed that the development of third head of biceps brachii may influence the course or branching pattern of musculo cutaneous nerve.⁵ In the present case we observed that Musculo cutaneous nerve had the branching pattern in between common bulk of Biceps Brachii muscle and the third head. This type of branching pattern of musculo Cutaneous nerve innervating common bulk of biceps brachii and third head place important role clinically.⁵

Different views exist for third head of biceps brachii. One school of thought is that these accessory head of biceps may be due to musculocutaneous nerve that pierces biceps and cause longitudinal splitting of myotubules which get a covering of connective tissue and becomes a separate belly of muscle.^{6,7} Presence of this third head of biceps brachii is important in the field of surgical intervention.

CONCLUSION

Presence of third head may increase the power of flexion and supination. This plays an important role in theoretical and clinical purpose. Variation in number of heads of Biceps Brachii muscles has already been reported to cause compression of surrounding Neuro vascular structures and is of clinical importance during routine surgeries. Presence of third head may also increase the strength and power of the arm. Individual may feel easy to lift the heavy objects.

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