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UNILATERAL VARIATION IN THE BRANCHING PATTERN OF 3RD PART OF AXILLARY ARTERY: A CASE REPORT

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ABSTRACT

The third part of the axillary artery has three branches: subscapular artery, anterior circumflex humeral artery and posterior circumflex humeral artery. Variations in the branching pattern of the axillary artery are quite common. Knowledge of such variation can avoid injuries during invasive procedures in the axillary region. The present study was carried out on an adult embalmed corpse in the department of Rachana Sharira of the AMC, Nagarur, India. The left axilla was dissected, an anatomical variation in the branching pattern of the Axillary artery was noted, and photographs were taken. The 3rd part of the Axillary Artery gives off the Anterior circumflex humeral artery separately, which is a typical observation. The Posterior circumflex humeral artery and subscapular artery did not have distinct origins from the 3rd part of the axillary artery. In addition to the Anterior circumflex humeral artery, the AA artery also gave a large common trunk from which the Posterior circumflex humeral artery and subscapular artery arose.

Keywords: Axillary artery, Axilla, Posterior circumflex femoral artery, Subscapular artery.

INTRODUCTION

The Subclavian Artery continues as an Axillary Artery. AA extends between the first rib's outer border and the Teres major's lower border. The artery is crossed by pectoralis minor, which divides the artery

into three parts- the first part proximal to the muscle, the second part behind, and the third part distal to the muscle. The first part gives off one branch of the superior thoracic artery. The second has two branches, thoracoacromial and lateral thoracic arteries. The third part of the axillary artery has three branches: the subscapular artery, anterior circumflex humeral artery and posterior circumflex humeral artery. Anatomical variations in the branching pattern of AA are relatively common. Awareness about the same is essential as its branches are used for coronary bypass surgeries and other reconstructive surgeries. This paper reports on a case of variation in the branching pattern of 3rd part of AA[1].

Case report:

The present variation was observed during a routine dissection of around 47-year-old adult male formalin-fixed cadaver in the department of Rachana Sharira of the AMC, Nagarur, India. The upper limbs and thorax dissection referred to the guidelines of Cunningham's Manual of Practical Anatomy. While dissecting the left axillary region, it was noted that the first part of the axillary artery, the superior thoracic artery, originated consistent with the standard anatomy textbooks. The second part exhibited the typical course and branching pattern, giving rise to the thoracoacromial and lateral thoracic arteries. The 3rd part of the Axillary Artery gives off the Anterior circumflex humeral artery separately, which is a typical observation.

However, the noteworthy deviation observed was that the Posterior circumflex humeral and subscapular arteries did not have distinct origins from the axillary artery. In addition to the Anterior circumflex humeral, the AA artery also gave a sizeable common trunk from which the Posterior circumflex humeral artery and subscapular artery arose. In its course, the posterior circumflex humeral artery enters the quadrangular space along with the axillary nerve. The subscapular artery again gives off the circumflex scapular artery, which further reaches the upper triangular space. The course and distribution of the axillary artery were entirely ordinary in the right axilla.

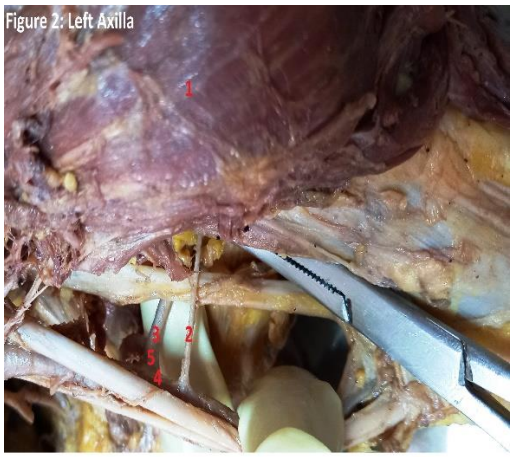
DISCUSSION

Several authors worldwide have reported on a range of variations in the axillary artery's branching pattern[2]. The literature states that the subscapular artery comes from the second part of AA in 4% of cases and in common with the posterior circumflex humeral artery from a common trunk in 30% of cases[3]. According to reports published by Saeed M et al. 4, in 3.8% of instances, they had a subscapular-circumflex humeral trunk from the third segment of the axillary artery. Rao et al. previously reported that the profunda brachii, anterior and posterior circumflex humeral, subscapular, and ulnar collateral arteries derived from a common trunk via the third segment of the left axillary artery[5]. In her research, Srimathi T noted a common trunk from the second segment of the axillary artery, which was further divided to give the lateral thoracic artery, thoracoacromial artery, subscapular artery, and PCHA[6]. According to embryonic studies, capillaries should regress or continue as capillaries instead continue, grow, and differentiate, resulting in variances in the arteries[7, 8]. Information about branching pattern of the axillary artery and deviation from the typical arterial pattern is essential for vascular radiologists and surgeons, interventional cardiologists, orthopedic surgeons, and anatomists[9, 10]. Brachial plexus injuries are rather prevalent and need to be investigated and repaired. During such surgeries, the variation of the axillary artery is a concern[11, 12].

CONCLUSION

Knowledge of variation in the Axillary artery might impact surgical strategies and interventional treatments, help prevent diagnostic errors and reduce complications during surgeries in the axillary region. The present paper showed variation in the branching pattern of the third part of the axillary artery. The paper adds to the body of knowledge already available on axillary artery variances.

1. Axillary A 2.Post Circumflex Humeral A 3. Axillary N 4. Subscapular A 5. Circumflex Scapular A



1. Pectoralis Minor 2. Anterior Circumflex Humeral Artery 3. Posterior Circumflex Humeral Artery 4. Axillary Artery 5. Common trunk for Posterior Circumflex Humeral Artery & Subscapular Artery

1. Pectoralis Minor 2. Acromiothoracic A 3. Anterior circumflex Humeral A 4. Axillary A 5. Lateral Thoracic A

1. Axillary A 2. Ant Circumflex Humeral A 3. Post Cirumflex Humeral A 4. Subscapular A

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