Anomalous Origin of Profunda Brachii Artery - A Cadaveric Study

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ABSTRACT

Aim: To study the variations in the origin of Profunda Brachii artery.

Material and method: The study was conducted at Department of Anatomy, Andhra Medical College, Visakhapatnam and Gitam Institute of Medical Sciences and Research on 30 embalmed cadavers.

Results: During our study we noticed anomalies in origin of profunda brachii artery in two cases.

Conclusions: Knowledge of anomalous origin is important for surgeons who operate on patients of fracture in the mid-shaft region & surgical neck of humerus. Variations in the vasculature of upper limb are of clinical importance particularly to the vascular surgeons and those performing angiographic procedures. Lack of the knowledge about these anatomical variations can lead to iatrogenic damage to the vessels while performing any interventional and surgical procedures of upper limb.

KEYWORDS

Profunda brachii artery, posterior circumflex humeral artery, axillary artery, brachial artery

INTRODUCTION

The profunda brachii is a large branch from the posteromedial aspect of the brachial artery, distal to teres major. It follows the radial nerve closely and enters the radial groove along with it. It supplies muscular branches, the nutrient artery of humerus and finally divides into terminal radial and middle collateral branches which take part in the anastomoses around the elbow [1].

The posterior circumflex humeral artery is a branch from the third part of axillary artery and runs along with the axillary nerve in the quadrangular space.

In 55% of the cases [2], the profunda brachii is the larger branch issued from the brachial artery (BA). Several variations in the branching pattern of brachial and axillary arteries have been described, mainly related with vessels of the third part [1,3].

In the present study the profunda brachii arise in common trunk along with the posterior circumflex humeral artery from the third part of axillary artery above the tendon of teres major muscle.

AIM:- To study the variations in the origin of profunda brachii artery.

MATERIALS AND METHODS:

During routine dissection process for the undergraduate students in the Department of Anatomy, Andhra Medical College, Visakhapatnam and Gitam Institute of Medical Sciences and Research, the variations in the origin of artery profunda brachii were recorded in 30 embalmed cadavers i.e., 60 upper limbs.

OBSERVATIONS:

During the routine dissection process for undergraduate students the following anomalies were observed in the origin of profunda brachii artery.

Two out of 60 dissected upper limbs have shown this anomalous origin of profunda brachii in common with posterior circumflex humeral artery from the third part of axillary artery.

In the first case the anomaly was observed unilaterally in the right upper limb. The profunda brachii arised as a common trunk with the posterior circumflex humeral artery from the third part of axillary artery. The common trunk has given rise to the posterior circumflex humeral artery and the Profunda Brachii artery. In this case the profunda brachii artery is very thin when compared to the posterior circumflex humeral artery. After origin the posterior circumflex humeral artery ran a normal course along with the axillary nerve in the quadrangular space (Image 1). The profunda brachii coursed along with the radial nerve in the spiral groove. Its relation with the median nerve was normal. The brachial artery has given few muscular branches and its remaining course and termination was normal. The remaining branches of axillary artery were normal in their course.

In the second case the anomaly was observed in the left upper limb. The profunda brachii had a common origin with the posterior circumflex humeral artery. The common trunk passed between the two roots of median nerve and gave posterior circumflex humeral artery and the Profunda brachii artery which were of equal caliber (Image 2). Thereafter the profunda brachii coursed normally along with the radial nerve in the spiral groove. The remaining course, branches and termination of brachial artery and axillary artery were normal. In this case the median nerve crossed posterior to brachial artery as seen in Image 2.
According to Charles et al., there are 7 types of origins for profunda brachii artery. In Type I the profunda brachii artery is the branch of brachial artery. Type Ia the profunda brachii artery originates by 3 separate branches, In Type II the profunda brachii artery arises as a common trunk with superior or ulnar collateral artery, In Type III the profunda brachii artery arises at the lower border of teres major so can be considered to be arising from axillary or brachial, In Type IV profunda brachii artery is the branch of 3rd part of axillary artery. In Type V profunda brachii artery arises as a common trunk with posterior circumflex humeral artery. In Type VI profunda brachii artery arises as a common trunk with subscapular and both circumflex humerals from axillary artery and Profunda brachii artery. In Type VII profunda brachii artery arises as a common trunk with subscapular and circumflex humeral artery and Profunda brachii artery.

**REFERENCES:**


