

## Rare high origin of the radial artery: a bilateral, symmetrical case

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### Abstract

Arterial variations in the upper limb can occur at the level of the axillary, brachial, radial and ulnar arteries as well as the palmar arches. This is a report of bilateral, symmetrical high origin of the radial artery from the axillary artery. Knowledge of such variations is important in vascular and reconstructive surgery.

**Key words:** High origin, radial artery, bilateral, symmetrical

### Introduction

The vascular pattern of the upper limb though fairly constant, variations have been reported.<sup>1-6</sup>

### Case report

During the dissection of a Nigerian male cadaver, an aberrant vessel was seen arising from the anterior part of the axillary artery proximal to the union of the 2 roots of the median nerve in both upper limbs (Figure 1). This vessel continued into the arm medial to the brachial artery and median nerve. About 2 cm below the origin of the median nerve, it sent a recurrent branch across the axilla to the latissimus dorsi muscle. The brachial artery also gave rise to the profunda brachii artery in the arm.

At the cubital fossa the aberrant artery crossed anterior to the brachial and the

median nerve to the lateral side of the forearm under the brachioradialis muscle as the radial artery (Figures 2 – 4). It did not have a recurrent branch here but continued into the hand where it gave rise to the deep palmar and dorsal arches of the hand the brachial artery ended by dividing into the ulnar and common interosseous arteries.

Figure 1: Origin of the aberrant artery (AA)



Figure 2: Aberrant artery (AA) crossing the elbow into the forearm

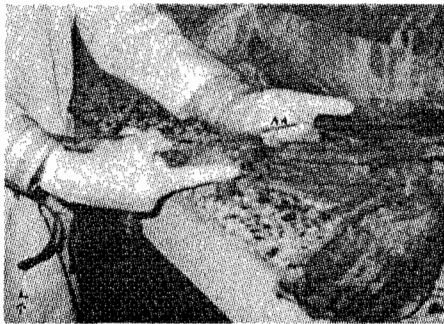


Figure 3: Diagrammatic representation of the course of the aberrant radial artery into the forearm

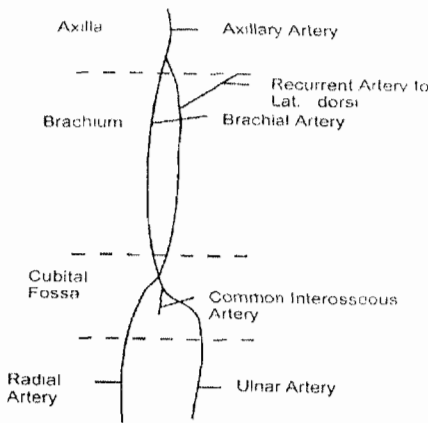
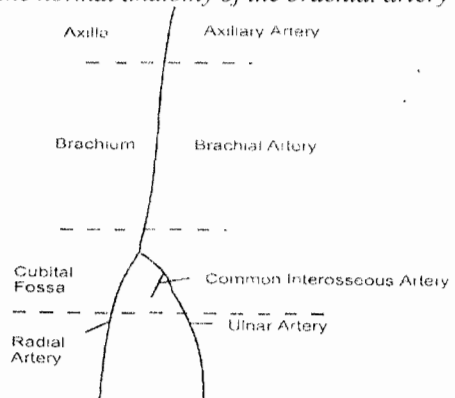


Figure 4: Course of aberrant radial artery in the forearm. R = aberrant radial artery, M = median nerve, U = ulnar artery



Figure 5: Diagrammatic representation of the normal anatomy of the brachial artery



**Discussion**

In the normal arterial pattern of the upper limb the brachial artery ends by dividing into radial and ulnar arteries in the cubital fossa. The ulnar artery then gives off the common interosseous artery and continues into the forearm on the medial side. The radial artery runs on the lateral side of the forearm (Figure 5).<sup>1</sup>

Commonly the reported vascular anomalies in the upper limb are unilateral.<sup>7-9</sup> Occasionally bilateral variations are reported.<sup>10, 11</sup> The anomaly in this report is bilateral and symmetrical. Though several reports have tried to ascertain vascular pattern and variations,<sup>12-15</sup> but a recent report suggests that significant changes in vascular anatomy may be produced by trauma.<sup>16</sup>

Clinicians involved in vascular and reconstructive surgery should be aware of vascular anatomy and the variations.

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