

Superficial Ulnar Artery and its Clinical Significance

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INTRODUCTION

We present a case of an atypical variation of the ulnar artery discovered while examining a cadaver during our Gross Anatomy lab dissection. This variation presents in such a way where the route of the ulnar artery runs superficially to the flexor compartment in the forearm.

The ulnar artery as well as the radial artery are vessels that supply the forearm flexor muscles. A superficial ulnar artery is a rare anomaly and if it is not correctly identified it can become a hazard for patients during surgery.

CASE PRESENTATION

In our gross anatomy lab, we discovered our 55-year old cadaver had an ulnar artery running superficial to the flexor muscles of the forearm.

Based on previous cadaver studies, the incidence of such variation in the adult population appears to be approximately 3.75% ¹.

Plastic surgeons can collect a 'radial flap' in the forearm compartment of a donor by harvesting the radial bone and artery and placing it in a recipient with an intact blood supply. During this surgery, the patient relies on the shared blood supply with the ulnar artery for this area. Surgeons have begun to implement equipment using Doppler Ultrasound to help ensure the safety for those with a superficial ulnar artery during surgery ⁴.

RESULTS & DISCUSSION



Figure 1: This image shows the dissected cadaver with atypical superficial arteries (arrow-head).

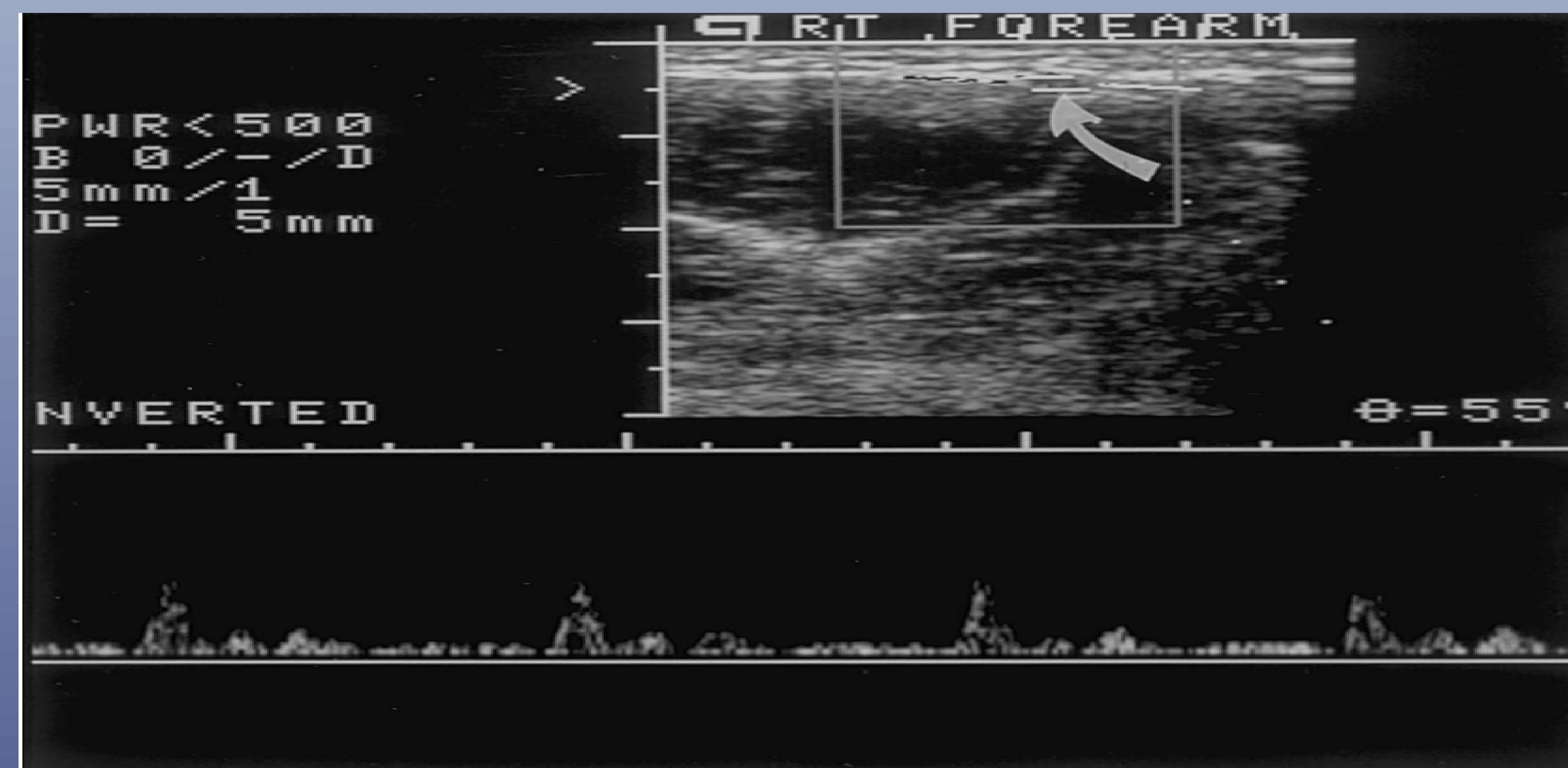


Figure 2: Ultrasound image using doppler showing the normal wavefront at the superficial ulnar artery (white arrow).

CONCLUSION

Superficial ulnar arteries are a rare genetic presentation in which the superficial artery lies on top of the vein. The use of pulsation to discern between the two can be difficult ³. The artery can be mistaken for a vein and result in the administration of medicines into here as opposed to the median cubital vein. This can lead to hemorrhaging as well as other potential traumas for patients.

Further studies on this anomaly as well as the implementation of Doppler Ultrasound to visualize arteries will be important in preventing accidental venipunctures and help maintain patient safety.

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