ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 9, Issue, 05, pp.50702-50703, May, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

MULTIPLE ANATOMICAL VARIANTS-HIGH DIVISION OF BRACHIAL ARTERY, SUPERFICIAL ULNAR ARTERY AND ANOMALOUS ORIGIN OF COMMON INTEROSSEOUS FROM RADIAL ARTERY

***Dr. Ayesha Nuzhat**

Faculty of Medicine, King Fahad Medical City, PoBox-59046, Riyadh-11525, Kingdom of Saudi Arabia

ARTICLE INFO

Article History:
Received 18th February, 2017
Received in revised form
10th March, 2017
Accepted 10th April, 2017
Published online 23rd May, 2017

Key words:

Artery, Variations, Brachial, Radial, Ulnar.

ABSTRACT

Variation of vasculature in the upper limb has been infrequently reported. In the present case we report the high division of brachial artery above the cubital fossa, superficial course of ulnar artery associated with the origin of common interosseous artery from the radial artery in a male cadaver. Knowledge of anomalous origin is of significant importance to perform invasive surgical procedures and for vascular surgeons.

Copyright©2017, Dr. Ayesha Nuzhat. *This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

Citation: Dr. Ayesha Nuzhat. 2017. "Multiple anatomical variants-high division of brachial artery, superficial ulnar artery and anomalous origin of common Interosseous from radial artery", *International Journal of Current Research*, 9, (05), 50702-50703.

INTRODUCTION

Axillary artery continues as the brachial artery at the lower border of teres major muscle. And terminates at the level of neck of radius in the cubital fossa by dividing into radial and ulnar arteries (Standring, Borley and Collins 2008). Usually, the ulnar artery gives off the common interosseous artery that divides into the anterior and posterior interosseous arteries. The ulnar artery passes deep to the superficial flexor muscles and runs with the ulnar nerve in the forearm. If the ulnar artery takes a high origin that lies superficially in the forearm it is known as superficial ulnar artery, the incidence of which is reported to be 0.7 to 7% (Senanayake, Salgado, Rathnayake, Fernando, Somarathne; 2007). Origin of common interosseous from radial arteryhas been rarely reported in previous studies (Bergman, Afifi, Miyauchi2004).

Case report

During routine dissection for medical undergraduates at Kakatiya medical college, Indiahigh division of brachial artery above the cubital fossa, and superficial course of ulnar artery that is superficial ulnar artery, was observed in the right arm of an adult male cadaver of approximately 60 years of age. The radial and ulnar artery arose at the level of insertion of the coracobrachialis muscle (Figures 1 and 2). Further the origin of common interosseous artery was from the radial artery rather than the ulnar artery. Course and branching patterns of the radial and ulnar arteries in the palm were usual. The left arm revealed no unusual vascular observations.

Corresponding author: **Dr. Ayesha Nuzhat,**
Faculty of Medicine, King Fahad Medical City, PoBox-59046, Riyadh-11525, Kingdom of Saudi Arabia.

DISCUSSION

The brachial artery terminates into radial and ulnar artery at the neck of the radius in the cubital fossa.Various authors have studied the termination of brachial artery (Suatkeskin, Zeynepkeskin, M AkifTeber, 2013). Pokhrel R, bhatnagar R. in the year 2013 reported an unusually high origin of radial artery, that is brachioradial artery in the left arm of an adult male cadaver of approximately 60 years of age. Sawant SP in the year 2013 studied 200 adult specimens and revealed that the brachial artery bifurcated in the upper part of the arm in 12 specimens, in the middle part of the arm in 8 specimens and the brachial artery bifurcated above the cubital fossa in the lower part of the arm in22 specimens. The brachial artery trifurcated in 6 specimens. He also observed that the radial artery gave origin to the common interosseous artery in the cubital fossa which terminated into anterior and posterior interosseous arteries. Variation in the branching pattern of the brachial artery is of considerable significance during cardiac catheterization for angioplasty, pedicle flaps, arterial grafting or brachial pulse. (Ghosh *et al*., 2016). Ulnar artery variations are reported due to its high origin from axillary artery or from

brachial artery in the arm and its superficial course in the arm and forearm (Bhat, Potu, Gowda, 2008; Kithsiri, Senanayake, Rathnayake *et al*., 2007).

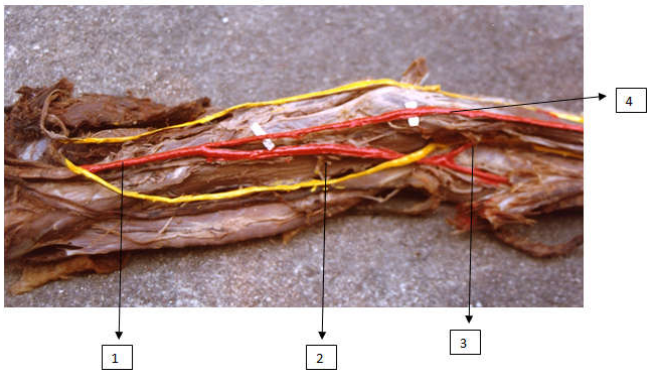

Figure 1. High division of brachial artery, superficial course of ulnar artery and origin of common interosseous from radial artery. 1. Brachial artery 2. Radial artery 3. Common interosseous artery 4. Superficial ulnar artery

Figure 2. High division of brachial artery, superficial course of ulnar artery and origin of common interosseous from radial artery. 1. Brachial artery 2. Radial artery 3. Common interosseous artery 4. Superficial ulnar artery

The possibility of superficial arteries getting mistaken for superficial veins is also well reported (Kithsiri, Senanayake, Rathnayake *et al*., 2007). Waseem al Talalwah, Dereje Getachew and Roger Soames 2015 reported that common interosseous artery was absent in 32.4% of 34 adult cadavers studied. Anomalous origin of common trunk of common interosseous, anterior and posterior ulnar recurrent arteries from the radial artery with ulnar artery presenting a superficial course was reported by (Srinivasaraosirasanagandla *et al*., 2016). The number of upper limb arterial variations take place through the persistence, enlargement and differentiation of parts of the initial network which would normally remain as capillaries or even regress (Moore and Persaud, 2003).

Conclusion

The knowledge of presence of the unusual high level bifurcation of brachial artery, superficial course of ulnar artery and origin of common interosseous from radial artery is clinically important for physicians, surgeons, orthopaedicians and radiologists performing different diagnostic and therapeutic procedures. Undoubtedly, such variations should be well known for ensuring proper treatment without any complications.

Acknowledgement

I would like to acknowledge DrNeeleeJayasree (HOD of Anatomy at Kakatiya Medical College) for her support during this study.

REFERENCES

Bergman RA, Afifi AK, Miyauchi R 2004. Illustratedencyclopedia of human anatomic variations (http:// //www.vh.org/anatomic variants/html).

Bhat, KM., Potu, BK. and Gowda, S. High origin of ulnar artery in South Indian male cadaver: a case report. *Romanian Journal of Morphological Embryology*, 2008, vol. 49, n. 4, p. 573-575.

Ghosh, B., Yadav, S, Budhiraja, V, Dass, P. K, Rastogi, R.and Chowdhury, S. 2016. Anatomical variation of the ulnar artery: clinical and developmental significance *J. Morphol. Sci.,* vol. 33, no. 1, p. 29-31**.**

Kithsiri, J., Senanayake, SS., Rathnayake, MJ., Fernando, R. and Somarathne, K. 2007. A rare variant of the superficial ulnar artery, and its clinical implications: A case report. *Journal of Medical Case Reports,* vol. 1, p. 128.

Moore, k. L . & Persand, T. V. N. The Cardio vascular system.In the developing Human, Clinically orientedembryology.7th Ed. Elsevier, India, 2003, pp. 329-80.

Pokhrel r, Bhatnagar R. Unilateral high bifurcation of brachial artery. OA Anatomy 2013 Dec 01;1(4):34.

Senanayake KJ, Salgado S, Rathnayake MJ, Fernando R, Somarathne K. A rare variant of the superficial ulnar artery, and its clinical implications: a case report. *J Med Case Reports.* 2007;1:128.

SharadkumarPralhadSawant.study of division of brachial artery in 100 cadavers. *International Journal of Analytical, Pharmaceutical and Biomedical Sciences*Volume: 2: Issue-2: April-June-2013pg1-5.

Srinivasarao Sirasanagandla, Narendrapamidi, Satheeshab Nayak, Raghu Jetti, Rajesh Thangarajan. Superficial Ulnar Artery Associated with Anomalous Origin of the Common Interosseous and Ulnar Recurrent Arteries *Journal of Clinical and Diagnostic Research.* 2016 May, Vol-10(5): AD01-AD02.

Standring, S., Borley, NR. and Collins, P. Gray's anatomy: the anatomical basis of clinical practice. 40th ed. London: Elsevier Churchill Liwingstone, 2008. p. 852-853.

SuatKeskin, ZeynepKeskin, M AkifTeberMultiple Arterial VariantsCommon interosseous artery arising from the radial artery and ulnar artery originfrom proximal brachial artery *Eur J Gen Med*, 2013; 10 (Suppl 1):36-38.

Waseem Al Talalwah, DerejeGetache and Roger Soame**.**The Morphology of Common Interosseous Artery and its *Clinical Significance Scholars Journal of Applied Medical Sciences* (SJAMS) 2015; 3(3B):1126-1131.

****