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A Rare Anomaly of Vertebral Artery – a case report

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Abstract:*During routine undergraduate dissection we have found a rare origin of left vertebral artery that is arising from superior aspect of arch of aorta in between left common carotid artery and left subclavian artery.Right vertebral artery having a normal origin from 1st part of subclavian artery.This topic is very helpful to various speciality persons like neurosurgeons, vascular surgeons, ent surgeons.*

Key words: *Arch of aorta, Left common carotid artery, Left subclavian artery, Left vertebral artery,Right vertebral artery.*

I.Introduction

Normally vertebral artery is a branch of subclavian artery arising from its 1st part.Both right &left vertebral arteries coursing upwards and laterally to enter into the foramina transversarium of 6th cervical vertebra.

Case report*:*

In routine dissection of 35 cadavers (in Andhra Pradesh region)in our department we have observedthat in one case, left vertebral artery is arising directly from superior aspect of arch of aorta in between left common carotid artery and left subclavian artery, the right vertebral artery having a normal origin.Transverse diameter&thickness of walls of cervical part of left vertebral artery are more compared with that of right vertebral artery.Narrowing of initial segment of thyro-cervical trunk is observed on left side.These two vertebral arteries are not giving any branches in neck.

Observation

S.no	feature	right side	left side
1	Site of origin of vertebral artery	from 1st part of subclavian artery	from arch of aorta
2	Transverse diameter at origin	0.7cm	0.8cm
3.	Thickness of walls of cervical part of vertebral artery	comparatively thin	thick
4.	Other Branches of Subclavian arterysegment of thyro-Cervical trunk	no such change	narrowing of initial
5.	Branches of Vertebral artery	nil	nil

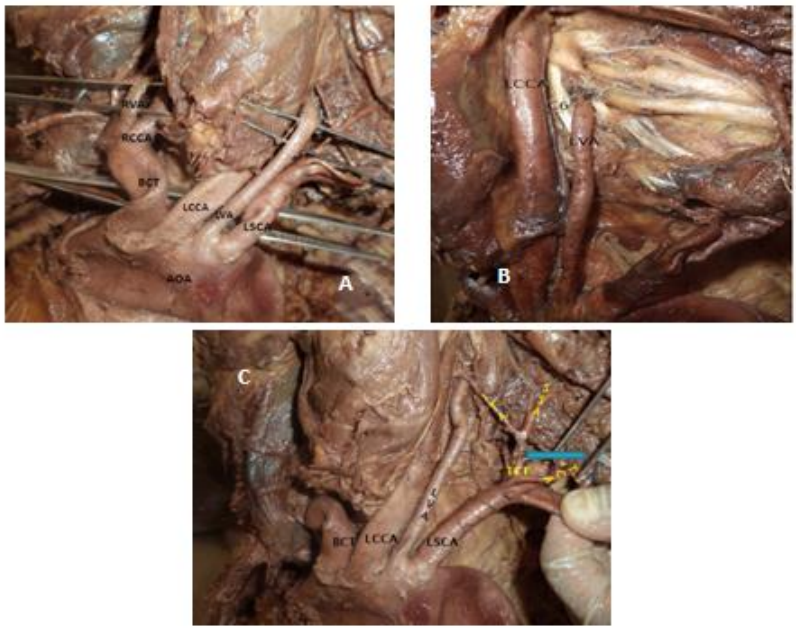

Figure 1: anomalous origin of left vertebral artery.

A – Anomalous origin of left vertebral artery(LVA)from arch of aorta.AOA-arch of aorta, LCCA-left common carotid artery, LSCA – left subclavian artery,BCT – brachiocephalic trunk,RCCA-right common carotid artery, RVA-right vertebral artery,RVA-right vertebral artery.

B – Site of entry of left vertebral artery into foramina transversarium of 6th cervical vertebra(C6).

C- Narrowing of initial segment of thyrocervical trunk(TCT),ITA-inferior thyroid artery,SSA-suprascpular artery,TCA-transverse cervical artery.

Embryologically

a) The vertebral artery is formed by as persistance of dorsal communication between 6th& 7th Intersegments artery.
b) Sixth intersegmental artery connection with dorsal aorta gradually regresses.
c) The Arch of Aorta is formed by differential growth of embryo & merging of the 4th Aortic arch with left dorsal aorta till 7th intersegmental artery.
d) Therefore VA appears as a branch arising from 1st part of Subclavian artery in adults.

In the present case, the left VA is arising from arch of Aorta. This anomalous origin must be due to slightly excess merging of dorsal aorta & 7th Intersegmental artery while forming Arch of Aorta. The Vertebral artery coursed the 6th Foramen transversarium.

MC Donald JJ & Anson BJ have reported that such anomalous origin of left VA in 3 – 4% of cases of American whites & Negroes.

To conclude this anomaly is rare & that life is possible as long as the lumen is normal.

Any anomalous origin, course or termination & distribution of Carotids arteries & vertebral arteries can be clearly observed by MRI Technique to start any surgical procedures.

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References

[1]. Asimkumardatta (2005): Essentials of human embryology,5th edition,pg no-194.
[2]. Beatapatasi, Alison yeung (2009): Anatomical variations in the origin of left vertebral artery,ijav 2:83-85.
[3]. Grays text book of anatomy(1995): 38th edition,pg no:318,513.
[4]. JayanthiV.prakash M(2010): Anomalous origin of left vertebral artery from arch of aorta,Folia Morphol,Vol 69,4:258-260.
[5]. Komiyana M et al (2001): high incidence of arterial dissection associated with left vertebral artery of aortic origin,Neurol med chir,41:8-11.
[6]. Panicker H K,Tarnekar A (2002): Anomolous origin of left vertebral artery,J Anat Soc India 51(2) 234-235.
[7]. Vicko G et al(1999): Anomalous origin of both vertebral arteries,Clin Anat 12:281-284.
[8]. MC Donald JJ & Anson DJ (1940) variations in the origin of Arteries derived from the aortic arch in Amcerican whites & Negroes. AM J. Phys. Anthropol 27 : 91- Anatomy for surgeons by W. Henry Hollinshead Vol – 1 Page – 470, 1961.
[9]. ArpitaSikka& Anjali Jain (2012) bilateral variation in the origin & course of the VA Anatomy 2012 (2012) Article ID 580765.