



LINGUOFACIAL TRUNK: A CASE REPORT

Anatomy

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ABSTRACT

INTRODUCTION AND AIM: Variations in the origin, branching pattern of the external carotid are well known and documented. The knowledge of variations is of great relevance in head & neck surgery and radiological examinations.

METHODS: This is a case report of linguofacial trunk found in routine dissection of formalin embalmed male cadaver carried out in the department of Anatomy at ESIC dental college Rohini, New Delhi.

CONCLUSION: The external carotid artery shows variations in its branching pattern.

KEYWORDS

Linguofacial trunk, External carotid artery, Lingual artery, Facial artery

INTRODUCTION

Face and neck are supplied by the branches of the external carotid artery. The external carotid artery gives rise to superior thyroid, ascending pharyngeal, lingual, facial, occipital, posterior auricular, maxillary and superficial temporal arteries. Any variations in the branching pattern of the external carotid artery is important for the surgeons as planning and execution of surgery is purely based on the anatomical arrangement of the structures in the neck region. Vascular abnormalities are usually detected either on the dissection table or by the radiologists during imaging or accidentally during surgeries. This case report highlights the variation in the branching pattern of the external carotid artery.

Case Report

This is a case report of linguofacial trunk found in routine dissection class for the Bachelor of Dentistry

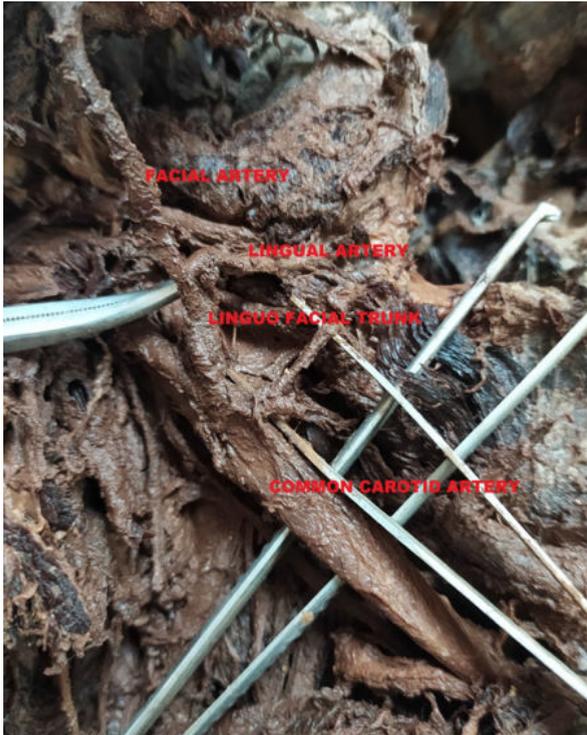


Fig 1. Linguofacial trunk diving in to Lingual and Facial arteries.

DISCUSSION

Anatomical knowledge of the origin, course and branching pattern of the external carotid artery is very important to surgeons when ligating the vessels in the head and neck regions during surgery and to avoid unnecessary complications. It is equally important for the radiologists and physicians associated with the field of malignancy in the treatment of tumours by embolization. Linguofacial variation is the commonest anomaly of external carotid artery [1]. It is reported by [2-4] in their

case reports. In a study of 30 cadaveric dissections [5] found a linguofacial trunk in 6% of cases. It was found in 18.92% of cases by [6] in their study of thirty-seven cadaveric dissection and in 19.9% by [7] in 36 hemi heads of adult cadavers of both genders. [8,9] observed in 20% of cadavers and in 7.5% by [10]. Multiple vascular anomalies including linguofacial trunk in a single patient was reported by [11]. In a study of Computed Tomography Angiography of 76 cases linguofacial trunk was present in 19.5% of the cases [12]. Finding of this study proves that variations do exist in the branching pattern of external carotid artery and careful evaluation of the region of supply of the artery is suggested for the clinicians who plan to carry out surgery, ligation and embolization of an artery.

CONCLUSION

The external carotid artery shows high frequency of variations. Therefore, knowledge of variations of branches of the external carotid artery is important to avoid intra and post-operative complications in the surgeries involving face, head and neck for surgeons.

Acknowledgement

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Conflict Of Interest

None.

REFERENCES

1. D Anangwe , H Saïdi, J Ogeng'o, K O Awori. Anatomical variations of the carotid arteries in adult Kenyans. East Afr Med J. 2008;85(5):244-7.
2. B-V Murlimanju , Latha V Prabhu, Mangala M Pai, Dhanya Jayaprakash, Vasudha V Saralaya. Variant origins of arteries in the carotid triangle - a case report. Chang Gung Med J. May-Jun 2012;35(3):281-4.
3. Monica Baxla, Chiman Kumari, and Saroj Kaler. Bilateral thyrolinguofacial trunk: unusual and rare branching pattern of external carotid artery. Anat Cell Biol. 2018; 51(4): 302-304.
4. Prajakta S Kishve, Sanjay P Kishve, Mohini Joshi, Syed M M Aarif , Piyush Kalakoti. An unusual branching pattern of common and external carotid artery in a human cadaver: a case report. Australas Med J. 2011; 4(4): 180-182.
5. Troupis TG, Dimitroulis D, Paraschos A, Michalinos A, Protogerou V, Vlasik K, Troupis G, Skandalakis P. Lingual and facial arteries arising from the external carotid artery in a common trunk. Am Surg. 2011 Feb;77(2):151-4.
6. Sanjeev IK, Anita H, Ashwini M, Mahesh U, Rairam GB. Branching pattern of external carotid artery in human cadavers. J Clin Diagn Res. 2010; 4:3128-3133.
7. Mata JR, Mata FR, Souza MC, Nishijo H, Ferreira TA. Arrangement and prevalence of branches in the external carotid artery in humans. Ital J Anat Embryol. 2012;117(2):65-74.
8. Devadas D, Pillay M, Sukumaran TT. A cadaveric study on variations in branching pattern of external carotid artery. Anat Cell Biol. 2018;51(4):225-231.
9. Zümre O, Salbacak A, Çiçekcibaşı AE, Tuncer I, Seker M. Investigation of the bifurcation level of the common carotid artery and variations of the branches of the external carotid artery in human fetuses. Ann Anat. 2005;187(4):361-9.
10. Zuhail Ozgur , Figen Govsa, Tomris Ozgur. Assessment of origin characteristics of the front branches of the external carotid artery. J Craniofac Surg. 2008;19(4):1159-66.
11. MC Rusu, AM Jianu , MDMonea , AC Ilie. Two cases of combined anatomical variations: maxillofacial trunk, vertebral, posterior communicating and anterior cerebral atresia, linguofacial and labiomental trunks. Folia Morphol (Warsz). 2021 Feb 9.
12. Mario Herrera-Núñez, José Luis Menchaca-Gutiérrez , Ricardo Pinales-Razo , Guillermo Elizondo-Riojas , Alejandro Quiroga-Garza , Bernardo Alfonso Fernandez-Rodarte , Rodrigo Enrique Elizondo-Omaña , Santos Guzmán-Lopez. Surg Radiol Anat. Origin variations of the superior thyroid, lingual, and facial arteries: a computed tomography angiography study. 2020 ;42(9):1085-1093.