IJCRR
Vol 04 issue 22
Section: Healthcare
Category: Case Report
Received on: 18/09/12
Revised on: 28/09/12
Accepted on: 06/10/12

FACIO-LINGUAL TRUNK – A CASE REPORT

Pushpalatha M., Sujana M., Sharmada K.L.

Department of Anatomy, Bangalore Medical College and Research Institute, Bangalore, India

E-mail of Corresponding Author: mpushpalatha145@gmail.com

ABSTRACT

The external carotid arterial system is a complex vascular system. It supplies the head, face and neck tissues. Variations in its course, branching and distribution are commonly encountered. Study of these variations are important as the anatomy of the external carotid artery and its surrounding nerves are studied for safe and accurate administration of super selective intra arterial chemotherapy via superficial temporal artery [1] as it is extremely important avoiding complications. As the branching variations are observed in individuals and sides. Preoperative angiography is a must [1].

Keywords: External carotid artery, superficial temporal artery, Angiography, Intra arterial chemotherapy.

INTRODUCTION

External carotid artery is one of the terminal branches of common carotid artery at the level of superior border of thyroid cartilage in carotid triangle [2].

The facial artery normally arises from the external carotid artery, just above the lingual artery, at the level of greater cornu of hyoid bone in the carotid triangle. It then passes upwards and forwards medial to the ramus of the mandible [3].

The lingual artery is typically the second branch taking origin anteriorly from the external carotid artery and may arise either below or under cover of posterior belly of digastric [4].

It is important for surgeons and radiologists to be aware of the normal anatomy of branches of common carotid artery since variations among these arteries are quite common; surgeons should be able to differentiate between the facial and the lingual artery to ensure accurate arterial ligation during Oral and Maxillo-Facial surgery and Radical Neck dissection. This knowledge can also help radiologists to understand and interpret Carotid system Imagings [5].

CASE REPORT

During routine dissection for 1st year medical undergraduate students in Anatomy Department in BMCRI, variation in the origin of facial and lingual artery from external carotid on left side was observed in a male cadaver. The lingual artery and facial artery were originating on left side as the common facio-lingual trunk from the anterior side of external carotid artery, 12mm from carotid bifurcation 10mm above the origin of superior thyroid artery. The facio-lingual arterial trunk was running medially and upwards which was crossed by hypoglossal nerve. The facial and lingual arteries were separated from the common trunk at a distance of 6mm from the origin of the common trunk. The facial and lingual artery was normal on right side. The venous drainage system of the neck was normal on both sides.

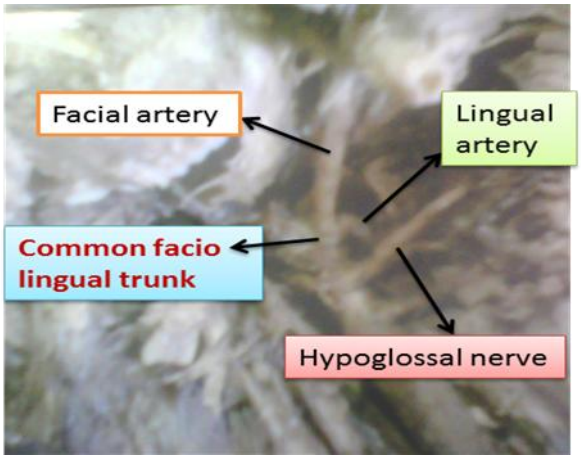

Fig: 1

DISCUSSION

Variations in branching pattern of carotid system are well known; common variations being lingual and facial arteries arising from the common carotid artery and posterior auricular, maxillary and superficial temporal arteries originating from the common carotid artery by a common trunk. In some cases no specific external carotid artery was observed [6]. The bifurcation level of the common carotid artery and origin variations of the branches of the external carotid artery was studied in 20 human fetuses. Results showed linguofacial trunk present in 20% of cases and a thyrolinguofacial trunk in 2.5% [7]

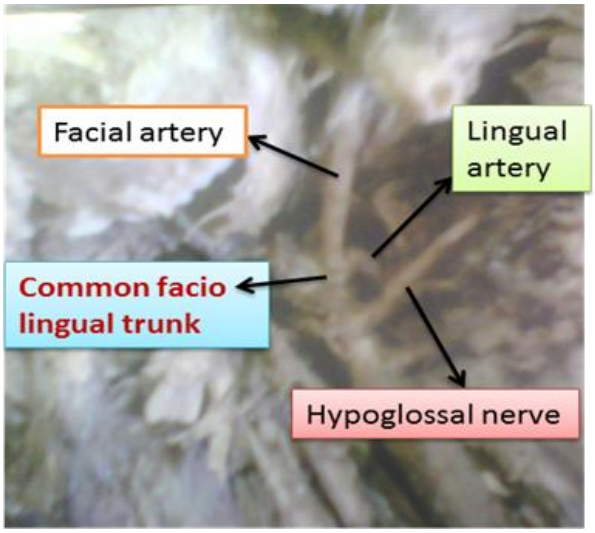

Fig: 2

Vascular tortuosity in the preauricular region of the catheter insertion site was observed in 42.9% of the sides; the main trunk of the external carotid artery was excessively tortuous in 25% of the sides, primarily in the preparotid region. Faciolingual and superior thyrolingual trunks were observed in 28.6% and 1.8% of the sides respectively [1]. A common trunk from external carotid artery giving rise to lingual and facial arteries has been reported [8]. A study to improve the treatment for locally advanced tongue cancer needed a combination of radiotherapy with continuous intra arterial therapy CBDCA. For this procedure a catheter was inserted through lingual artery in 26 patients out of 40 and in 2 through facio-lingual trunk and in 12 through external carotid artery [9].

CONCLUSION

Thus the variations in the branching pattern of external carotid artery are rare findings providing knowledge useful for surgeons operating on face and neck regions, for radiologists in the interpretation of imaging. The present case thus would provide useful information for clinical applications since most of the cosmetic surgeries take place in head and neck regions.

REFERENCES

1. Yonenaga K, Tohnai I, Mitsudo K, Mori Y, Saijo H, Jwai T, Yonehara Y, Ota Y, Torigoe K, Takato T. Department of Oral and Maxillofacial surgery, Tokyo university Graduate school of Medicine, Hongo 7-3-1, Bunkyo-ku, Tokyo 113-8655, Japan. Yonenaga-_tky@umin.ac.jp
2. Standring S.ed Gray's Anatomy, 40th edition, New York, Churchill Livingstone. 2008;444-45.
3. Nayak S. Abnormal intraparotid origin of the facial artery, Saudi Med J, 2006; 27(10):1602
4. Hollinshed WH Anatomy for surgeons vol.1. 3rd ed., Phelidelphia, Harper and Row. 1982; 374-375

5. Thwin S S, Soe MM, Myint M, Than M, Lwin S. Variations of the origin and branches of the external carotid artery in a human cadaver. Singapore Med Case Report J 2010; 51(2) : e40.
6. Kaneko K, Akita M, Murata E, Imai M, Sowa K, Unilateral anomalous left common carotid artery; a case report. Ann Anat. 1996;178:477-480.
7. Zumre O, Saiback A, Cicekcibasi 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 sep;187(4):361-9
8. Troupis TG, Dimitroulis D, Paraschos A, Michalinos A, Protogerou V, Valsis K, Troupis G, Skandalakis P. Department of Anatomy, Medical school, National and Kapodistrian University of Athens, Athens, Greece. ttroupis@med.uoa.gr
9. Department of Radiation Oncology, Aichi cancer center Hospital, Nagoya, Japan. nfuwa@aichi-cc.jp