

Study of the Common Origin of Lingual And Facial Artery from External Carotid Artery – Research Article

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Abstract: Anatomical knowledge of variations in the branching pattern of the external carotid artery will be helpful in surgical procedures of the head and neck region and also in angiographic studies.

Material And Methods: Present study was conducted in the neck region of 25 embalmed human cadavers to find out the variations in the branching pattern of the external carotid artery.

Results: Common origin of linguo facial trunk variations was found in 2 cases unilaterally out of 50 cases.

Conclusion: Present study concluded the incidence of common linguo facial trunk was 4%.

Keywords: linguo facial trunk, External carotid artery, Common carotid artery

I. Introduction

The common carotid artery (CCA), internal carotid artery (ICA) and External carotid arteries (ECA) are provides the major resource of blood to the head and neck region. The CCA bifurcates into an internal carotid artery and an external carotid artery in the carotid triangle at upper border of thyroid cartilage, disc between the C3 and C4 cervical vertebra. The external carotid artery runs antero medial to the internal carotid artery at its origin then becomes anterior and lateral as it ascends. the external carotid artery has eight named branches, superior thyroid, lingual, facial arteries arises from its anterior surface, the occipital and posterior auricular arteries arises from its posterior surface, ascending pharyngeal artery arises from medial surface and the maxillary, superficial temporal arteries are its terminal branches arises within the parotid gland. [1] Rare anomalous origin of linguo facial common trunk from left common carotid arteries is reported in the present study could cause serious complications in neck surgeries.

II. Material And Methods

25 number of 10 % formalin fixed embalmed human cadavers were used for this present study to find out the branching pattern of the external carotid artery. Study was conducted in the department of anatomy at Narayana Medical College, Nellore and Siddhartha Medical College, Vijayawada, Andhra Pradesh, India. The methods used for this study were the macroscopic dissection and the distance was measured by using vernier calipers, between common carotid artery to lingual artery (CCA – L), common carotid artery to facial artery (CC – F) and lingual artery to facial artery (L- F) .

III. Results

Out of the 50 cases, we observed Anomalous origin of lingual and facial artery as a common trunk in 2 cases on left side. The measurements of the case no 1 was taken between common carotid artery to lingual artery (CCA – L) as 0.8 cm, common carotid artery to facial artery (CC – F) as 0.8 cm and lingual artery to facial artery (L- F) as 1 cm (Fig:01) and The measurements of case no 2 was between common carotid artery to lingual artery (CCA – L) as 1.4 cm, common carotid artery to facial artery (CC – F) as 0.5 cm and lingual artery to facial artery (L- F) as 0.5 cm (Fig:02). The incidence of common linguo facial trunk in the present study was 4%.

IV. Discussion

The incidence of unilateral anomalous common origin of linguo facial trunk were reported by various authors as follows, Hayashi N et al. (2005) 20 % [2], Lucev N et al. (2012) 20 % [3], Zumre O et al. (2005) 20 % [4]. Mata et al. (2012) [5] reported this variation in 19.9%, Troupis et al. (6%) (2011) [6]. Fazan et al. 20% (2009) [7] in right side 24% in the left side 4.9% showed a bilateral lingual-facial trunk. Pantoja, G. C et al.(2012) [8] noticed common origin of linguo facial trunk on left side located 12.04 mm from the carotid bifurcation and 9.31 mm from the origin of the superior thyroid artery. Nirmala devi M et al. (2010) [9] observed this variation 3 cm above the bifurcation of common carotid artery. Present study the incidence of common linguo facial trunk was 4%.

V. Conclusion

Knowledge of vascular anatomy of present variations may reduce the chances of collateral injures in neck surgeries. Awareness of the variations in the branches of ECA is Significant for surgical, radiologic and diagnostic procedures in the head and neck region.

The present study is to provides information concerning about the origin, anatomical relations of the linguo facial trunk in the region of anterior triangle of the neck, during the intra oral biopsies, extractions, dental implants by surgeon where care should be taken.

Acknowledgements

Authors are thankful to Professor& HOD and previous authors, publishers, editors of all of those articles, journals and books from where the literature of this article has been reviewed and discussed.

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FIGURES& LEGENDS:



Fig: 01: Shows the common origin of linguo facial trunk. (Common carotid artery, superior thyroid artery, Internal carotid artery, lingual artery, linguo facial trunk, facial artery, occipital artery, Posterior auricular artery, sub mental, inferior labial, superior labial, lateral nasal artery)



Fig: 02: Shows the common origin of linguo facial trunk. (Common carotid artery, superior thyroid artery, internal carotid artery, lingual artery, linguo facial trunk, facial artery)