A Research on The Incidence of Linguofacial Trunk Arising From External Carotid Artery in Adult Cadavers
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Abstract: The common carotid arteries are the major source of blood supply to the region of head and neck. Normally external carotid artery gives eight branches in the region of neck. In our present study, we have dissected all the branches of external carotid artery and we researched about the variation in facial and lingual artery specifically, the linguofacial trunk. This variation is important for surgeons in head and neck surgeries. The objective is to know the incidence of this variation in Indians so that the surgeons and radiologists can be benefitted by this knowledge. The routine dissection steps were followed that are normally undertaken for dissecting blood vessels in the head and neck region. It is found that 4 cadavers (15.38 %) had unilateral linguofacial trunk and only one (3.8%) had bilateral linguofacial trunk out of the twenty six cadavers dissected. In conclusion, knowledge about this variation is of utmost importance to anatomists, surgeons and radiologists.

Keywords: linguofacial trunk, variations, external carotid artery.

INTRODUCTION
Common carotid artery normally divides into external and internal carotid artery at the level of upper border of thyroid cartilage. 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. Iatrogenic lingual artery injury during tonsillectomy has been reported because of the presence of linguofacial trunk[1]. The facial artery normally arises from the front of external carotid artery just above the tip of greater cornua of hyoid bone in carotid triangle. The lingual artery is usually the second branch of external carotid artery arising from its front, opposite the tip of greater cornua of hyoid bone[2]. Sometimes facial and lingual arteries may arise from a common trunk (linguofacial trunk)[3]. This knowledge is also essential for radiologists to understand and interpret the carotid system imaging[4].

MATERIALS & METHOD
This study was done on twenty six human cadavers. These entire samples were collected from Department of Anatomy, Gandhi Medical College, Bhopal and Bundelkhand Medical College, Sagar. The study was carried out for a period of four years. Routine dissection method was followed. Incidence of linguofacial trunk originating from the front of external carotid artery have been studied in this entire study.

RESULT
4 cadavers that is 15.38 % had unilateral linguofacial trunk arising directly from external carotid artery approximately 1-1.5 cm medial to it and only one (3.8%) had bilateral linguofacial trunk out of all the twenty six cadavers dissected. 

Fig-1: Classic appearance of linguofacial trunk in a male cadaver
DISCUSSION
Anatomical studies have revealed the presence of linguofacial trunk unilaterally in 20% of population [5,6,7]. According to a study done by Bergman et al. facial artery may replace lingual artery and supply the sublingual gland. Linguofacial trunk bilaterally in 4.8% have been also reported [8]. Faciolingual and superior thyrolingual trunks were observed in 28.6% and 1.8% of the sides respectively [9]. Variation in branching pattern of ECA on both the sides are rare findings which impart useful knowledge for the surgeons while operating on the face and neck regions [4]. The anomalous branching pattern of linguofacial trunk may have implications in the surgical field. This brings the facial and/or lingual arteries in close proximity to the tonsillar fossa, thereby increasing the risk of iatrogenic injury [1].

CONCLUSION
The anatomical knowledge of external carotid artery and their variations are important for all the anatomists, surgeons and radiologists.

REFERENCES