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Case Report

Variant origin of thyrolingual trunk from left common carotid artery

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ABSTRACT

A case is reported in which there was a variant origin of thyrolingual trunk from left common carotid artery 2 cm below its bifurcation in the neck. The trunk was running forward and medially and later it was dividing into upper lingual and lower superior thyroid branches. No such artery was seen on right side. © **IJAV. 2010; 3: 44–45.**

Key words [thyrolingual trunk] [common carotid artery]

Introduction

The right common carotid artery originates in the neck from the brachiocephalic trunk while the left arise from the aortic arch in the thoracic region. The cervical portion of common carotids resembles each other very closely. The common carotid artery is contained in a sheath known as the carotid sheath, which is derived from the deep cervical fascia. It also encloses the internal jugular vein and vagus nerve between the artery and vein on a plane posterior to both. Approximately at the level of the fourth cervical vertebra, the common carotid artery bifurcates into an internal carotid artery and an external carotid artery in the carotid triangle. The external carotid artery runs anteromedial to the internal carotid artery at its origin but becomes anterior and lateral as it ascends. In the neck, the external carotid artery gives off six branches: superior thyroid, lingual, facial, occipital, ascending pharyngeal and posterior auricular arteries.

Case Report

The carotid system of arteries was observed for variations in 30 cadavers for the period of 3 years from 2005 to 2008, in routine educational dissection for undergraduate students. In the academic year 2007–2008 in our department, this variation of thyrolingual trunk arising from left common carotid artery was observed in a male cadaver aged about 60 years (Figure 1).

The lingual artery and superior thyroid artery usually take origin separately from external carotid artery. In the present case, the thyrolingual trunk originated from common carotid artery. It first ran forwards and medially and then divided into lingual and superior thyroid branches. The lingual artery ascended vertically up medial to external laryngeal nerve, crossed the internal laryngeal nerve, taking an oblique course it passed underneath the hypoglossal nerve and anterior belly of digastric muscle to enter digastric triangle. Superior thyroid artery descended downwards towards the thyroid gland.

Discussion

There are reports in the literature of origin of left vertebral artery from arch of aorta [1]. There are also reports of higher and lower division of common carotid artery [2] and even trifurcation of common carotid artery. [3]

The origin of thyrolingual trunk from external carotid artery has been reported with an incidence of range from 0.7–3%. However its origin from common carotid artery has been reported less than 0.1% [4]. The above variation is reported on account of its rarity.

The unusual course of the lingual artery as well as variations in the origin of superior thyroid artery could be of interest to head and neck surgeons. Generally, the common carotid artery does not give any branches except external and internal carotid arteries [5]. Therefore the knowledge of such variations is vital for the exact identification of the neck vessels during surgery to avoid a fatal mix-up with internal carotid artery [6]. A

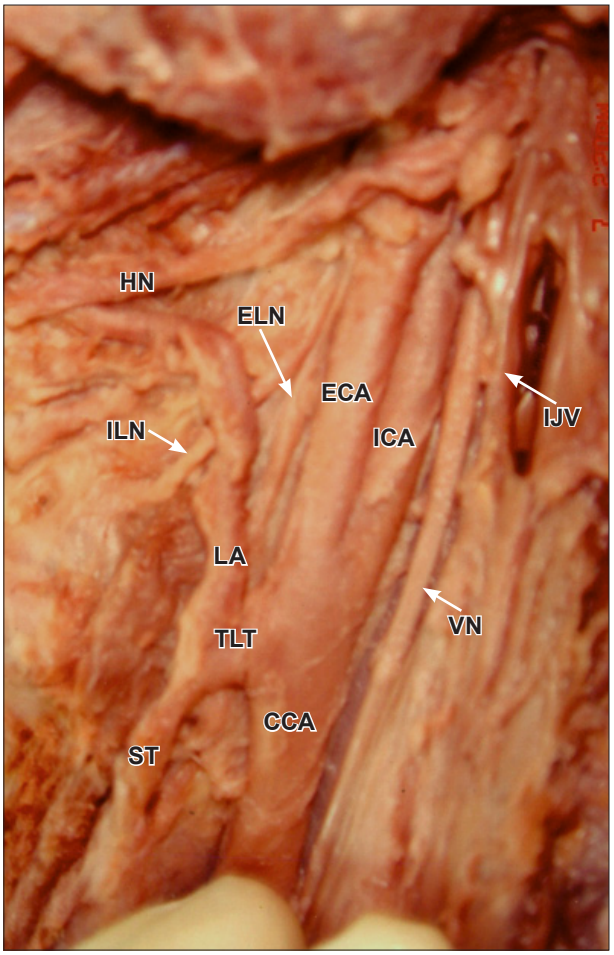

Figure 1. Photograph of specimen showing variant thyrolingual trunk arising from left common carotid artery. *(**TLT:** thyrolingual trunk; **LA:** lingual artery; **ST:** superior thyroid artery; **CCA:** common carotid artery; **ECA:** external carotid artery; **ICA:** internal carotid artery; **VN:** vagus nerve; **IJV:** internal jugular vein; **HN:** hypoglossal nerve; **ELN:** external laryngeal nerve; **ILN:** internal laryngeal nerve)*

thorough knowledge of vascular anatomy is essential for the understanding and interpretation of diagnostic and interventional vascular procedures, as well as performing surgical procedures.

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