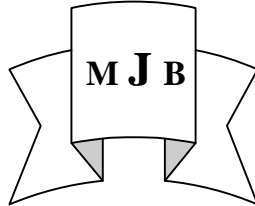


## An Incidental Finding of the Thyroidea Ima Artery A Case Report Study

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### Case Report

#### Abstract

We are here reporting a case of an incidental finding of the thyroidea ima artery emerging from the brachiocephalic trunk with a typical inferior thyroid vessels on both sides emerging from the thyrocervical trunk. The thyroidea ima artery entered the thyroid gland near to right side of the isthmus from the lower border approximately 1 cm below the normal inferior thyroid.

It arose from the brachiocephalic artery proximal to its bifurcation. It ran deep to the infrahyoid muscles, giving off a branch that run downward to the superior mediastinum, and then supplying the anterior surface of the isthmus and the right lobe of the thyroid gland by means of two branches.

#### Introduction

The thyroidea ima artery course in the superior mediastinum and lower neck is hazardous in median surgical approaches to these areas. It has a variable origin and a highly variable rate of occurrence.

Thyroidea ima artery is an important artery supplying thyroid gland. It may also supply the neck viscera and thymus. When present, it emerges from the brachiocephalic trunk, the arch of the aorta or the right common carotid artery. It present in 3% of cases [1]. The knowledge of the anatomy of the thyroidea ima artery is important for neck surgeons. [2,3].

#### Case Report

The thyroidea ima artery of this case report was observed in an embalmed adult female cadaver during a routine supervised gross anatomy class dissection. The neck viscera were exposed according to standard dissection method. On both sides, the thyrocervical trunk was identified with

its usual three branches. A thyroidea ima artery was identified with medial origin from the middle of the brachiocephalic artery 8 mm proximal to its bifurcation (Figure 1). It followed a tortuous course giving off 1 branch to the right lobe of the thyroid gland and a second branch directed to the superior mediastinum probably to supply the rudimentary thymus before entering the lower border of the thyroid isthmus near to its right side.

#### Discussion

The thyroidea ima artery described in this case report was observed here with in 8 cadavers dissected from 1996-2007. Its variability and low percentage of occurrence have been emphasized by many reports since it was first described in the eighteenth century.

Anatomical variations in the neck vessels are very high even that we find many anatomical variations during dissection of this cadaver. Venous variations are much higher than arterial. Arteries supplying the thyroid

gland include the superior thyroid artery, which emerge from external carotid artery and inferior thyroid artery, emerging from the thyrocervical trunk.

In a small percentage of cases, anomalous arteries to the thyroid occur [3]. The most important anatomical variety of thyroid arteries is the thyroidea ima artery, present in 1.5% - 12.2% of cases [4]. In majority of cases, it emerges from brachiocephalic trunk, less often from right common carotid artery, aortic arch, internal thoracic artery or left common carotid artery [5,11]. The accessory inferior thyroid artery rather represents a rare variety of the thyroidea ima artery, emerging from subclavian artery than a typical accessory inferior thyroid artery. In our case, the inferior thyroid artery, which we recognized as normal, had a typical course and relation to surrounding structures, including recurrent laryngeal nerve

and parathyroid glands and in our case the thyroid ima artery represented by 1out of the 8 cadavers we dissected. The knowledge of the course of the thyroid ima artery is important mainly for surgeons, for the proper performance of neck surgery (eg. Removal of the thyroid gland by thyroidectomy or during tracheostomy procedure as elective life saving procedure) [6,10]. Atypical branching of vessels can cause intra-operative bleeding and/or postoperative hematoma by damaging of the thyroid ima artery [7]. Missing the ligation of the thyroid ima artery may lead to bleeding after operations [8]. Midline neck surgery may lead to injury if the surgeons miss the probability of the presence of such a normal arterial variation in the suprasternal region [6,,9,13].and may find thyroid artery emerging from brachiocephalic trunk with bilateral missing inferior thyroid artery[12].



**Figure 1**

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