

= Thyroid ima artery =

The thyroid ima artery ( thyroidea ima artery , arteria thyroidea ima , thyroid artery of Neubauer or the lowest thyroid artery ) is an artery of the head and neck . It is an anatomical variant that , when present , supplies blood to the thyroid gland , which is primarily supplied by the inferior and superior thyroid arteries . The artery also supplies the trachea , the parathyroid gland and the thymus gland ( as thymica accessoria ) in rare cases . It has also been reported to be a compensatory artery when one or both of the inferior thyroid arteries are absent and in a few cases the only source of blood to the thyroid gland . Though it mostly arises from the brachiocephalic trunk , it may also originate from other sources . It also varies in size , blood supply , and termination . The artery occurs in only 3 ? 10 % of the population and because of the variations , it may cause surgical complications such as severe bleeding .

= = Structure = =

Thyroid ima artery is an embryonic artery and it occurs because of the failure of the vessel to close , remaining patent ( open ) .

The artery has a variable origin . It mostly arises from the brachiocephalic trunk , but may also originate from the arch of aorta , the right common carotid , the subclavian , the pericardiacophrenic artery , the thyrocervical trunk , the transverse scapular or the internal thoracic artery . It ascends in front of the trachea in the superior mediastinum to the lower part of the thyroid gland .

It differs in size and ranges from as small as accessory thyroid arteries to the size of primary thyroid vessels . The diameter of the lumen of the artery ranges from 3 ? 5 millimetres ( 0 @ . @ 12 ? 0 @ . @ 20 in ) . The artery may be present as an accessory thyroid artery but sometimes appears to compensate for incompetence or absence of one or more main thyroid vessels . Since it begins from below the thyroid gland and ascends upwards , it is mostly associated with absence or reduced size of the inferior thyroid arteries . In such cases , it is known as the accessory inferior thyroid artery . In rare cases , the artery has been seen to be compensating for absence of one or both superior thyroid arteries .

In cases where the length of the thyroid ima artery is shorter , the artery ends by supplying the thymus gland and is known as thymica accessoria .

= = Function = =

When present , the thyroid ima 's chief supply is the thyroid gland , though it also supplies the trachea . The artery may extend and supply the parathyroid glands . An infrequently observed artery , it is more frequently reported in the context of enlarged parathyroid glands ( parathyroid adenomas ) . The artery ends by supplying the thyroid gland , or the parathyroid glands , as a single unit or as multiple branches . The artery is also found to be the only supply of the parathyroid gland in rare cases .

= = Clinical significance = =

The artery is only present in approximately 3 ? 10 % of the population . Thyroid ima artery is of surgical importance ; due to its relatively small size and infrequent presence it can cause complications such as severe bleeding in surgery of the thorax , trachea , thyroid or parathyroid glands . Knowledge of occurrence of the artery is especially important during tracheostomy and thyroidectomy . Because the artery is smaller than the other thyroid vessels , and having an origin from one of the bigger vessels , a brisk cut while performing the surgery may cause complications such as severe hemorrhage and significant blood loss . The artery , if dissected , may draw back into the mediastinum and further complicate the condition by causing hemorrhage and clots in the thoracic cavity .

### = = History = =

The thyroid ima artery was first defined by German anatomist Johann E. Neubauer in the year 1772 . Hence , it was named the thyroid artery of Neubauer . The artery originates lower than the inferior thyroid arteries , so it is also known as the lowest thyroid artery .

Arteria thyreoidea ima is the Latin name of the artery .

### = = Other animals = =

The presence of thyroid ima artery is also observed in other higher primates . The artery has been reported in gorillas , gibbons , macaques and gray langurs . Variations in the origin were also seen ; it was found to originate from the aorta in the thorax , or the carotid in the neck .