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CASE REPORT

# Bilateral clavicular attachment of omohyoid muscle

## *Attachement claviculaire bilatéral du muscle omohyoïde*

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### KEYWORDS

Omohyoid;  
Posterior triangle;  
Landmark

**Summary** Omohyoid muscle present in cervical region is of particular importance to anatomists as it defines anteriorly the carotid triangle and divides the posterior cervical triangle. It has superior and inferior bellies and an intermediate common tendon. Like sternohyoid, sternothyroid and thyrohyoid muscles, omohyoid is also an infrahyoid muscle, but it differs from them in its course. The infrahyoid muscles are formed from a muscle primordium occurring in the anterior cervical area. Anderson (Anderson, 1881) theorized that the superior belly of the omohyoid muscle is a true infrahyoid muscle, whereas the inferior belly most likely shares a common embryology with the subclavius muscle. In the present study, during routine dissection in the neck region of an adult male cadaver of 50 years age, an anomalous origin of inferior belly of omohyoid with absence of intermediate tendon was observed bilaterally. It was arising from clavicle on both sides. Both the muscle bellies were measured from the lateral end of fascial sling. The inferior belly of omohyoid extending from the lateral margin of sling to clavicular surface was measured 3.3 cm in length on left side and 3.6 cm on right side. The omohyoid is important in neck dissections because it is considered as an ideal landmark for level III and IV lymph node metastases. Knowledge of variations of this muscle is very important for surgeries in neck region because of its close relation to the internal jugular vein and brachial plexus. Its crucial relationship to vascular structures in the neck makes it an important landmark during neck surgeries.

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**Résumé** Le muscle omohyoïdien présent dans la région cervicale revêt une importance particulière pour les anatomistes car il délimite le triangle des carotides et divise en deux parties le triangle cervical postérieur. Il présente deux ventres (supérieur et inférieur) et un tendon commun intermédiaire. Comme le sternohyoïdien, le sternothyroïdien et le thyrohyoïdien, il appartient au groupe des infra-hyoïdiens, mais il diffère d'eux dans son orientation. Les muscles infra-hyoïdiens sont formés à partir d'une ébauche musculaire apparaissant dans la région antérieure du cou. Anderson (Anderson, 1881) a émis l'hypothèse que le ventre supérieur du muscle omohyoïdien constituait un authentique muscle infra-hyoïdien, tandis que le ventre inférieur partage le plus souvent une origine commune avec le muscle subclavier. Dans la présente étude, acquise lors de la dissection de routine du cou d'un cadavre masculin adulte de 50 ans, nous avons observé bilatéralement une origine anormale du ventre inférieur de l'omohyoïdien, avec absence de tendon intermédiaire. Il s'insérait des deux côtés sur la clavicule. Les deux ventres musculaires ont été mesurés à partir de la marge latérale de la boutonnière ligamentaire. Le ventre inférieur s'étendait du bord latéral de la boutonnière à la surface claviculaire a été mesuré de 3,3 cm de long sur le côté gauche et de 3,6 cm sur le côté droit. L'omohyoïdien présente une certaine importance dans les dissections du cou parce qu'il est considéré comme un repère idéal pour le repérage des métastases ganglionnaires des groupes III et IV. La connaissance des variations de ce muscle est très importante pour les actes chirurgicaux dans la région du cou en raison de sa relation étroite avec la veine jugulaire interne et le plexus brachial.

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## Introduction

The omohyoid muscle is a strap muscle present in the lateral cervical region. It has superior and inferior bellies and an intermediate common tendon. It arises by the inferior belly and is inserted through superior belly. Inferior belly arises from upper border of scapula near suprascapular notch and adjoining part of suprascapular ligament. Superior belly is attached to lower border of body of hyoid bone, lateral to the sternohyoid muscle. The central tendon lies on the internal jugular vein at the level of the cricoid cartilage and is bound to the clavicle by a fascial pulley, which is considered as thickening of infrahyoid fascia. Superior belly is supplied by superior root of ansa cervicalis and inferior belly by inferior root of ansa cervicalis [1].

Omohyoid is an infrahyoid muscle but differs from other three-infrahyoid muscles in its course. This is attributed to the embryogenesis of the infrahyoid muscles [2]. The infrahyoid muscles are developed from a muscle primordium situated in the anterior cervical area [3].

The omohyoid is important in neck dissections because it is considered as ideal landmark for level III and IV lymph node metastases [4]. It is the best landmark for identifying the internal jugular vein (IJV); thus any variation in this muscle may increase the risk of injuring the IJV during surgeries in the lower neck region [5].

The present study reports an unusual bilateral omohyoid muscle, which originates from clavicle with absence of intermediate common tendon. Knowledge of variations of this muscle is very important for surgeries in neck region because of its close relation to the large vessels and brachial plexus.

## Case report

During routine dissection in the neck region of an adult male cadaver of 50 years age, an anomalous origin of inferior belly of omohyoid with absence of intermediate tendon was observed bilaterally. The omohyoid muscle was fleshy throughout its extent and was continuous with superior belly. The intermediate tendon was not discernible (Figs. 1-2).

On the left side, omohyoid was arising from clavicle, about 6 cm away from suprasternal notch. The origin was just medial to clavicular origin of deltoid. It was measured 3.3 cm in length from lateral end of fascial sling and 0.7 cm in breadth (Fig. 1).

Similarly on right side, it was attached on clavicle, about 6.5 cm away from suprasternal notch. It was measured 3.6 cm in length and 0.6 cm in breadth (Fig. 2).

Bilaterally, it was supplied by ansa cervicalis (Fig. 2). The neurovascular structures in the cervical region were normal. Superior belly was having normal attachments on both ends. No other muscle displayed abnormal morphology.

## Discussion

Omohyoid muscle present in cervical region is of particular importance to anatomists as it defines anteriorly the carotid triangle and divides the posterior cervical triangle. Its crucial relationship to vascular structures in the neck makes it an important landmark during neck surgeries. Additionally, if there is any variation in the normal attachment of the omohyoid muscle, the cervical surgeons should

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