



Geniolingual artery: a proposed name for an important artery

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ABSTRACT

Multiple arteries perforate the lingual cortex of mandibular symphysis. These arteries might be damaged during various surgical procedures and can pose significant health risk to the patient. It would be beneficial for clinicians to know these anatomic landmarks in order to prevent complications.

Key words: Mandibular symphysis, lingual artery, Sublingual artery, Dental implant.

Introduction

The floor of the mouth has a rich anastomosing blood supply, mainly provided by sublingual branch of the lingual artery and submental branch of the facial artery on each side. Several anatomic studies have demonstrated that branches from these arteries perforate the lingual cortex of the mandibular symphysis and provide blood supply to the symphyseal bone. The number and location of foramina and associated canals that contain these arterial branches vary among individuals. They are most common in the midline of the symphysis (Fig 1) and less common in areas lateral to the midline. The clinical significance of these vascular canals lies in the fact that damage to these canals as a result of various surgical procedures could result in profuse bleeding and hematoma formation in the floor of the mouth and subsequent airway compromise. Several reports of such a life-threatening complication following surgical placement of dental

implants in symphyseal bone have been published so far [1,3]. Osseous genioplasty is another surgical procedure that could potentially damage these arteries and cause significant hemorrhage.

Despite their clinical significance and the risk of surgical complications associated with them, these arteries have not received adequate attention from surgeons and anatomists. These arteries have not been named so far, and are referred to under such general terms as branches of the lingual artery, terminal branches of sublingual artery, or branches of submental artery [4,5]. Attributing a specific name for these perforating arteries may call more attention to the presence and significance of them. Here, I propose the name "geniolingual" for these arteries. Regardless of their origin from either lingual or submental arteries, these important branches enter the "genial" area of the

mandibular bone by perforating the “lingual” cortex. A search in PubMed retrieves no result for the term “geniolingual”. As far as I know, this term has not been used to name any other artery, vein, or nerve in text books of anatomy and surgery. Therefore, the term “geniolingual” is proposed for lingual branches that penetrate into the symphyseal area of the mandible.

The most common geniolingual artery is the one in the midline and is present in almost all individuals. This midline geniolingual artery is created by anastomosis of branches from left and right sublingual artery, and enters the symphysis through the genial foramen [4,5]. Paramidline geniolingual arteries are less common.



Figure 1. The red arrow shows the genial foramen over the lingual cortex of the mandibular symphysis.

Conflict of Interest

There is no conflict of interest to declare.

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