Case Report

A variant digastric muscle

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ABSTRACT

Presence of variant digastric muscle is not uncommon. Knowledge of such variations is important for the anatomists and clinicians particularly the surgeons who use the anterior belly of digastric muscle as a landmark in certain surgical procedures. We report a variant digastric muscle found in the suprahyoid region in an adult male cadaver dissected for undergraduate dental students. The anterior belly of the digastric muscle on the right side was absent and a bilateral symmetrical accessory anterior digastric muscle (AcADM) was present. The AcADM was seen to be superficial to the mylohyoid muscle on the right side and superficial to the anterior belly of the digastric muscle on the left side. This AcADM was innervated on its deeper aspect by nerve fibers coming from the nerve to the mylohyoid. The posterior bellies of the digastric muscle were in usual anatomical locations. © IJAV. 2011; 4: 120–122.

Key words [anterior belly] [digastric muscle] [variation] [accessory muscle] [nerve supply]
mylohyoid muscle (Figures 1, 2) and deep to platysma, the anterior belly on the right side was absent (Figures 1, 3) and the posterior belly was attached to the hyoid bone through its tendon. The AcADMs were seen to draw their nerve supply through nerve fibers coming from the nerve to mylohyoid muscle, the nerve fibers entering on the deep surface of the AcADMs near their attachments on the base of the mandible (Figures 3, 4).

The dimensions of the accessory muscle were measured with the help of a spreading caliper. The AcADM on the right side was seen to be 2.7 cm wide at its attachment on the base of the mandible with its inner medial margin at its commencement being 3.3 cm from the midline of mandible. The width of this muscle at its attachment on the hyoid bone was 2.9 cm. The AcADM on the left side was seen to be 2.3 cm wide at its attachment on the base of the mandible with its inner medial margin being 3.4 cm from the midline of mandible. The width of this muscle at its attachment on hyoid bone was 1.8 cm. The length of the AcADMs along their inner medial margins was 2.5 cm on right side and 2.2 cm on left side, while this length along their outer lateral margins was 2.0 cm on both the sides (Figure 5).

**Discussion**

The complexity of the sequential development in this region can lead to potentially countless variations. The pharyngeal arches begin to develop early in the 4th week of development as the neural crest cells begin to migrate into the developing head and neck region. By the end of the 4th week well-defined pairs of pharyngeal arches are visible externally [2].

Variant digastric muscles began to be reported about a hundred years ago. A good number of reports on various types of variations of the anterior belly of digastric muscle are available. These variant muscles are either unilateral [3] or bilateral [4–7], or median in location [8] or are bilateral and symmetrical [9,10]. These variations relate to the differences in the shape of the muscle and their attachments. The accessory muscle fibers could cross the midline or remain on the same side. Unilateral variations in the region could lead to asymmetry in the anterior region of neck. On radiological examination, accessory muscle fiber bundles in the submental region could be confused to be tumours or enlarged lymph nodes. Mangalagiri and Razvi [11] are of the opinion that unilateral and bilateral variations in the anterior belly occur equally as also observed by Liquidato et al. [12]. In the present case, the accessory muscle (AcADM) was attached to the base of the mandible and the hyoid bone and intermediate tendon of digastric muscle. The anterior
belly of digastric was absent on the right side. On the left side, AcADM was superficial to the anterior belly of digastric. This type of unique variant digastric muscle has not been reported previously.

Unilateral and bilateral variations in the anterior belly of digastric muscle can be due to deficiency in the differentiation process of the muscle primordium of the first pharyngeal arch on one or both sides, as the case may be. The authors believe that knowledge about these anatomical variations of surgical landmarks may help avoid complications in surgery and may help to avoid confusion while interpreting the images of the region. The present report is aimed at raising the awareness of the anatomical variations in the region.

References