

***Transversus Menti* Muscle in a Thai Cadaver**

Músculo *Transversus Menti* en un Cadaver Tailandés

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SRIPANIDKULCHAI K.; CHAISIWAMONGKOL K. & IAMSAARD S. *Transversus menti* muscle in a Thai cadaver *Int. J. Morphol.*, 31(4):1399-1400, 2013.

SUMMARY: In submental and around the mouth areas, the superficial muscles are considered in surgery of some deformities of mouth angle. Herein, we report a rare case of the *Transversus menti* muscle (TM) in a Thai 74 year-old male cadaver. This TM originated from both sides of the oblique line of depressor anguli oris and formed as transverse fibers in submental area. Their fiber ran under the chin and was superficial to platysma muscle. The TM was innervated and supplied by mandibular branches of facial nerve and small branches of the submental artery. This report attempted to discuss the possible function and clinical significance of the TM.

KEY WORDS: *Transversus menti* muscle (TM); Submental area; Depressor anguli oris muscle; Platysma muscle.

INTRODUCTION

The depressor muscles of the mouth are part of the superficial facial muscles that are important for considerations of some cosmetic or reconstructive facial plastic surgeries. These muscles are composed of depressor labii inferioris, depressor anguli oris, mentalis, orbicularis oris, platysma, and transversus menti (also called transverse muscle of the chin). Among those muscles, the transversus menti muscle (TM) is a superficial muscle located in submental region and is clinically considered to use in reconstruction of some defects around the mouth angle (Weaver, 1978). In general, the TM is considered to be a muscular strip originating from the depressor anguli oris (DAO) muscle crossing as transverse fibers to opposite muscle. It is innervated by buccal or mandibular branch of facial nerve. Functionally, TM can depress angle of mouth and displace angle medially. In the literatures, the TM could be found in a variant type of the platysma muscle (Lanz & Wachsmuth, 1955; Kim *et al.*, 2001). Interestingly, it has been observed that the TM was present in 9 of 16 cadaver specimens (Weaver). However, this variation which has clinical significant has never been reported in Thai people.

CASE REPORT

During the routine dissection of embalmed cadavers for teaching medical students at the Medical Gross Anatomy Laboratory in the Department of Anatomy, Faculty of Medi-

cine, Khon Kaen University in 2011-2012, we found the transversus menti muscle (TM), a thin superficial muscular band present under the submental region, of a Thai 74 year-old male cadaver (Fig. 1). Their muscular fibers transversely run between right and left depressor anguli oris (DAO) muscle. Its muscular fibers were transverse and superficial to the platysma muscle (Fig. 1). The TM was approximately 5.5 cm in length, 0.9 cm in width measured (measured at the broadest point), and 0.1 mm in thickness, respectively. In addition, it was innervated by the mandibular branches of facial nerve and supplied by small branches of the submental artery.

DISCUSSION

The frequency of transversus menti muscle (TM) has been reported to be present in approximately 50% of people (Weaver 1978). From our expertise in routine dissection of neck and face more than 25 years, TM is the first case that we have observed in our department (Fig. 1). Therefore, it is a very rare case found in Thais.

As Weaver described, the TM in this report had same anatomy of origin, insertion, nerve and blood supplies. These may imply similar functions: depressing angle of mouth and displacing angle medially.

In development, it is possible that TM's myotomes differentiated from same myotomes of depressor anguli oris (DAO) muscle because TM continuous runs transversely between left and right DAO across the chin observed in adult

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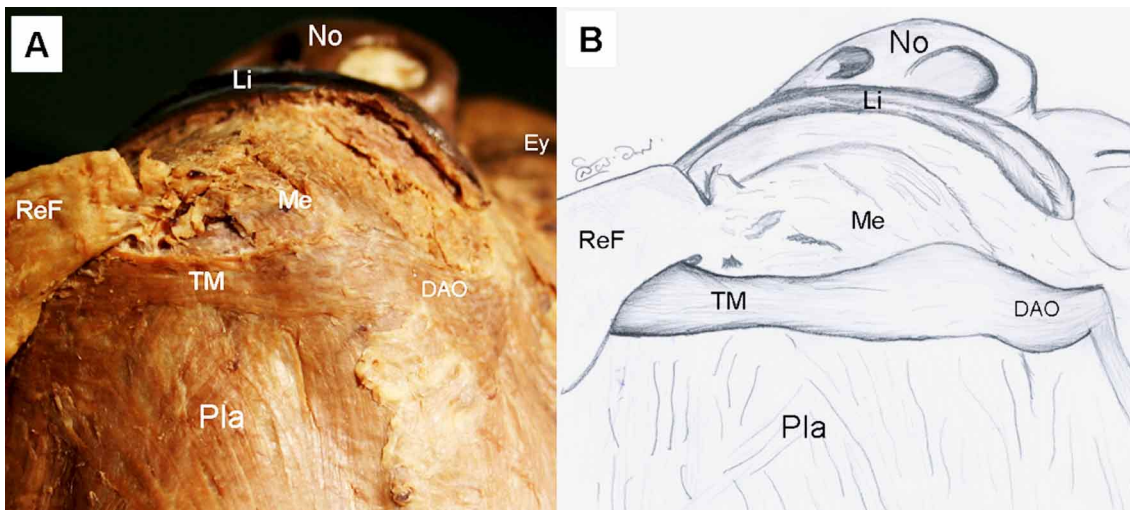


Fig. 1. Photograph (A) and schematic drawing (B) (ventro-lateral submental approach) showing the submentalis muscle strip originating from the depressor anguli oris. ReF= reflected fascia, TM= transversus menti muscle, Me= mentalis, Li= lips, No= nose, Ey= eye, DAO= depressor anguli oris muscle, Lla= platysma muscle.

(Fig. 1). Therefore, TM should be classified as a variation of the DAO although it was included to be a variant type of platysma muscle (Lanz & Wachsmuth; Kim *et al.*). Currently, cosmetic or reconstructive facial plastic surgeries including submental area rejuvenation are relatively popular. For rejuvenation of the submental area during a cervicofacial rhytidectomy, the levels of difficulties and limitations of operation depend on variant anatomy of skin, subcutaneous fat, platysma, etc. (Colville & Patel, 2001; Labbé *et al.*, 2013; Giordano *et al.*, 2011). To decrease such levels, the present of TM is also concerned. In addition, it has been suggested that the TM can be used for reconstruction of some deformities around the mouth angle (Weaver).

SRIPANIDKULCHAI K.; CHAISIWAMONGKOL K. & IAMSAARD S. Musculo transversus menti en un cadaver tailandés. *Int. J. Morphol.*, 31(4):1399-1400, 2013.

RESUMEN: Alrededor de la boca y en áreas submentonianas, los músculos superficiales son considerados en la cirugía de algunas deformidades del ángulo de la boca. Este estudio presenta un caso raro de músculo *transversus menti* (TM), en un cadáver tailandés de sexo masculino de 74 años de edad. El músculo TM se originó a partir de los dos lados de la línea oblicua del músculo depresor del ángulo oral y se formó como fibras transversales en el área submentoniana. Sus fibras se desplazaron debajo del mentón y superficialmente al platysma. El músculo TM estaba inervado e irrigado por ramos mandibulares de nervio facial y pequeñas ramas de la arteria submentoniana. Se discute su posible función y el significado clínico del músculo TM.

PALABRAS CLAVE: Musculo *transversus menti* (TM); Área submentoniana; Músculo depressor anguli oris; Platysma.

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