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## A proposal for safe and efficient injection points of botulinum toxin in temporal region for sleep bruxism

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The aim of this study was to simplify the optimal temporal areas for safe and reproducible approach for BoNT injections into the temporalis muscle(TM) by carrying out detailed dissections and measurements of the structures in the temporal area, and to virtually represent a topographic mapping of postural relations among the major anatomical structures such as superficial temporal artery, middle temporal vein and temporal branch of the facial nerve in the temporalis muscle of the temporal area. Nineteen sides of TM from 10 embalmed Korean cadavers were used in this study. The lateral canthus of the eye and tragus were set as landmarks to establish the reference line of this study. The topographies of the superficial temporal artery, middle temporal vein, temporalis tendon, and the temporalis muscle were evaluated. On the disclosed boundary of the muscle, we can visualize an imaginary, rectangular TM in the temporal area. The surface of TM can be divided into 9 equally sized rectangular areas. The topography of studied anatomical structures in these nine compartments was observed and measured from the superficial to deep layers. After drawing the muscle boundaries, they were divided into nine compartments in order to simplify the relationship between the soft-tissue landmarks and the anatomical structures, and to more facilitate the description of appropriate injection sites. The relative positional ratios between the anatomical structures were constant in all of the specimens. The reference line was first established as C-T, and the distance between C and E' was set as the bottom side of the TM rectangle. The vertical sides of the rectangle were configured at 80% of the bottom side(ratio 5:4). Based on the results of this study, Am, Mu, and Pm were proposed as suitable BoNT injection sites.

### Biography

Mar 2002 ~ Feb 2008 : DDS, predoctoral course and dentistry, College of Dentistry, Yonsei university, Seoul, Republic of Korea. Mar 2010 ~ Feb 2013 : Residency program, Department of Orofacial pain and Oral medicine, College of Dentistry, Yonsei university, Seoul, Republic of Korea. Apr 2013 ~ Apr 2016 : as a Army surgeon in dental surgery, Republic of Korea Army May 2016 ~ Present : Fellowship, Department of Orofacial pain and Oral medicine, College of Dentistry, Yonsei university, Seoul, Republic of Korea

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