Thesis Title	The Anatomy Study of the Facial Temporal Region, Age 25-50, in Thai Population Based on Ultrasound Investigation
Author	Chenda Ly
Degree	Master of Science (Dermatology)
Advisor	Prof. Thamthiwat Nararatwanchai, Ph. D.
Co-advisor	Sirintip Chaichalotornkul, Ph. D. Asst. Prof. Tawee Saiwichai, Ph. D.

ABSTRACT

Background: Aging, influenced by genetic and environmental factors, affects the facial tissues, including skin, fat, muscles, and bones. The temporal region, significant for both function and appearance. People are increasingly concerned about temporal depression, which makes them look older, and seek to improve it through injections. It is complex due to its layered structure and blood vessel routes, posing challenges for safe aesthetic procedures. Advanced ultrasound imaging offers detailed views of this region's anatomy, crucial for precise and safe injections.

Objective: This study aims to use high-frequency ultrasound to map the depth and position of the deep temporal arteries and the basic anatomy of the temporal region in Thai individuals aged 25-50, focusing on structural variations.

Materials & Methods: This observational cross-sectional study involved 33 Thai participants (25-50 years old, both sexes, with and without filler injection). High-frequency ultrasound (VENUE GE Healthcare) with a hockey-stick probe (2.5 to 16.8 MHz) was used to map the temporal region's vessels and measure the depth and position

of the deep temporal artery and soft tissues. Ultrasound images were recorded, and participants were assessed via questionnaires for satisfaction and adverse effects.

Results: The study found that 33 subjects (15.15% male, 84.85% female) have an average age of 33.42 years. It compared anatomical features between 10 subjects with hyaluronic acid filler injections (average duration 32.4 months) and 23 without fillers. Key findings showed variations in skin thickness, subcutaneous layers, SMAS layers, temporal bone, and temporalis muscle thickness at different depths and positions, highlighting the impact of filler injections on the anatomical structure of the temporal region. In addition, the study found significant differences in the depth and position of temporal artery between subjects with and without filler injections.

Conclusion: The intricate structure of the temporal region necessitates a clear understanding of the spatial arrangement of each tissue layer to enhance the effectiveness and safety of injectable temporal fillers. Ultrasound imaging aids in comprehending these details and supports therapeutic procedures.

Keywords: Temporal Region Anatomy, Deep Temporal Arteries, High-Frequency Ultrasound, Thai Population, Facial Aging

Face–Aging
Face – Anatomy

Ultrasonic testing

Arteries

Thais