5 - Dental Anatomy

OC-035 - (23734) - MORPHOLOGICAL VARIATIONS OF THE PTERYGOMAXILLARY SUTURE ACCORDING TO SKELETAL PATTERNS

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Le Fort I osteotomy requires proper separation of the pterygomaxillary suture (PMS) for successful maxillary mobilization. Preoperative evaluation of the bony and vascular structures is crucial to minimize postoperative complications. This study investigated anatomical differences of the PMS and adjacent structures across different skeletal classifications using cone-beam computed tomography (CBCT), hypothesizing no significant morphological changes.

A retrospective analysis of 120 patients aged 18 to 70 years was conducted using CBCT images from the Oral and Maxillofacial Surgery Department at Ankara Medipol University. Patients were categorized into three skeletal groups (Class I, II, III) according to the ANB angle. Linear and angular measurements of the PMS and adjacent structures were performed using established reference points. Statistical analysis included the Shapiro-Wilk test, Independent t-test, Mann-Whitney U test, and regression analysis, with significance set at $p < 0.05$.

Significant differences were found between skeletal groups: the distance between the lateral PMS point and the intersection of the baseline of medial pterygoid plate (IV-VI) ($p<0,05$), the distance between the medial PMS point and its perpendicular intersection with the baseline (V-V') ($p<0,05$), and the angle between the lateral PMS point, medial PMS point, and the intersection of the baseline and medial pterygoid plate (V-IV-VI) ($p<0,05$).

PMS morphology is significantly influenced by skeletal pattern, particularly in thickness, width, and angulation. Preoperative CBCT assessment and tailored surgical strategies are recommended to improve the safety and precision of Le Fort I osteotomies, especially in patients with Class II and III skeletal configurations.

Palavras-chave : Pterygomaxillary suture, Maxillary sinus