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# Association between maxillary posterior segment discrepancy and the angulation of maxillary molars in patients with different vertical growth patterns

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**Statement of the Problem:** The impaction of maxillary third molars causes the crowns of maxillary first and second molars to tip distally in patients with maxillary posterior segment discrepancy. The aim of this study was to compare the maxillary first and second molar angulations in patients with Maxillary Posterior Segment Discrepancy (MPSD) with Non-Maxillary Posterior Segment Discrepancy (N-MPSD) and evaluate the effect of their angulations on various divergence patterns.

**Materials & Method:** A cross-sectional study was conducted using the pre-treatment lateral cephalograms of 180 subjects which were divided into two groups i.e. MPSD and N-MPSD. The Mann-Whitney U test was applied to compare various skeletal and dental parameters between the two groups and a pairwise comparison was made among the vertical growth patterns. The Kruskal Wallis test was used to compare the mean molar angulations and overbite among the three divergence patterns.

**Result:** The ratio of anterior to total palatal plane ($p \leq 0.001$) and the molar angulation ($p \leq 0.001$) showed significant differences between the MPSD and N-MPSD groups. In the MPSD group, significant differences were found between the overbite in the normodivergent versus hyperdivergent ($p \leq 0.001$) and hypodivergent versus hyperdivergent groups ($p \leq 0.001$) and in the angulation of the first maxillary molars in the normodivergent versus hyperdivergent groups ($p \leq 0.001$).

**Conclusion & Significance:** MPSD causes reduced maxillary first and second molar angulations. A ratio of the anterior palatal plane to total palatal plane length of ≥0.51 was seen in patients with impacted maxillary third molars.

## Biography

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