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The effect of resting tongue posture on sagittal jaw relationship

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Introduction: Resting tongue posture affects the surrounding structures, resulting in altered arch form and jaw relationships. In the present study, we investigated the association between resting tongue posture and sagittal jaw relationship.

Material & Method: The study was conducted on pretreatment lateral cephalogram and dental cast of 90 subjects. Subjects were equally divided into three groups based on sagittal jaw relationship (Class I, II and III). Tongue posture was determined in terms of tongue-to-palate distances at six different points (D1-D6) using ViewPro-X software according to the method described by Graber. The arch widths (intercanine and intermolar widths) were evaluated on pretreatment dental casts.

Result: Tongue-to-palate distances were found to be comparable among different study groups ($p>0.05$). Significant differences were found in intercanine and intermolar widths at the cuspal and gingival levels among the study groups ($p<0.05$) except intercanine width at cuspal level in maxilla and intermolar width at cuspal level in mandible. Moderate positive correlation was found between arch widths ratios at D3 and D4 in skeletal class-III group. The tongue posture was found to have a moderate to large effect on sagittal jaw relationship and arch widths.

Conclusion: The results of the current study implicate that the tongue posture has a significant effect on sagittal jaw relationship and dental arch widths

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