

UNIVERSITI TEKNOLOGI MARA

**UPPER INCISOR ANGULAR
MOVEMENT AND ITS
CORRELATION TO THE HARD AND
SOFT TISSUES IN MALAY
BIMAXILLARY PROTRUSION
CASES WITH TRANSPALATAL
ARCH REINFORCEMENT**

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ABSTRACT

Introduction: Bimaxillary protrusion is characterized by increased proclination of upper and lower incisors with either prognathic maxilla and mandible or normal skeletal pattern and protrusive upper and lower lip. Bimaxillary protrusion presents in most ethnic group in the world and predominant in Asian countries and also in African population. In some patient, this condition really affects their profile and patient often seek treatment to improve their facial appearance. This research is based on data obtained from Postgraduate Clinic UiTM Sungai Buloh and Puncak Perdana.

Aim of the study: The aims of this study were to analyse incisor angular movement and its correlation with the changes of the underlying hard and soft tissues in bimaxillary protrusion in Malay cases with transpalatal arch.

Material and Methods: Thirteen female subjects with bimaxillary protrusion were recruited in this study with extraction of upper first premolars extraction and reinforced anchorage transpalatal arch. Pre-treatment and near end lateral cephalometric radiographs were taken to evaluate the hard and soft tissues changes.

Results: The results of the study suggested that the amount of angular incisor changes post-treatment with reinforced anchorage transpalatal arch was $-13.15^{\circ} \pm 8.78^{\circ}$ or 10.2%. Following retraction of upper incisors, a significant dento-alveolar and soft tissue changes were found however, no significant changes ($P < 0.05$) were found in the entire skeletal variables (SNA, SNB, ANB, MMPA and ALFH). The retraction of upper incisors were correlate with the inter-incisal angle, ALFH and nasolabial angle and negligible correlation were found with the other variables.

Conclusion: This study can facilitate the clinician during treatment planning in bimaxillary protrusion treated cases with reinforced anchorage by transpalatal arch.

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