

## OP 2

### **Cephalometric Changes Following Orthodontic Treatment of Bimaxillary Proclination With A Pre-Adjusted Edgewise Fixed Appliances**

Mohd Azahar MFR<sup>1</sup>, Ehsan Sabri N<sup>1</sup>, Mohd Tahir NN<sup>2</sup>, Sivarajan S<sup>2</sup>

1. Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.
2. Department of Paediatric Dentistry and Orthodontics, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia.

**Objectives:** To analyse soft and dental tissue cephalometric changes following orthodontic treatment of bimaxillary proclination patients with pre-adjusted edgewise fixed appliances. The cephalometric changes were compared for different extraction pattern and pre-treatment crowding. The post treatment cephalometric values were compared with the population norm to determine the treatment outcome.

**Methods:** This retrospective study was conducted at the Orthodontic clinic, Faculty of Dentistry, University Malaya. Pre- and post-treatment clinical records and lateral cephalograms of 16 conveniently selected samples were assessed for the soft and dental tissue parameters. Data were then analysed using paired t-test using SPSS version 25.

**Results:** Pre-treatment and post-treatment cephalogram comparisons showed significant changes in dental tissue parameters. The nasolabial angle and lower lip to E-line was the only significance cephalometric soft tissue changes. The first premolars extraction resulted in more significant changes in dental tissue measurements. In the mild crowding cases, there was significant changes in the distance of lips to E-line and dental tissue changes. Majority of the post-treatment soft tissue cephalometric values were close to the population norms. Meanwhile, the post-treatment dental parameters of the Malay populations were close to their norms.

**Conclusion:** Pre- and post- treatment cephalograms showed more significant dental tissue changes as compared to soft tissue changes. The choice of extraction pattern and amount of pre-treatment crowding will affect the treatment outcomes. Treatment outcomes of bimaxillary proclination were favourable as the post-treatment cephalogram changes were near to population norms.

**Keywords:** Cephalometry changes, Bimaxillary proclination, Soft tissue changes, Dental tissue changes, Treatment outcomes