

## CLASS II DIVISION 1 BIMAXILLARY PROTRUSION, A CASE PRESENTATION

FLINTWALTER P. BACOY, DDM

2<sup>nd</sup> YEAR RESIDENT, UPCD MSc ORTHODONTICS

The Class II Division 1 malocclusion may result from a retrognathic mandible, a prognathic maxilla or both. It is very common for the familial genetic pattern of Asians<sup>1</sup> particularly among Filipinos, to express such dental condition. Often treatment difficulties arise especially when the severity of the malocclusion increases. Patients manifest protruding lips with proclination of the incisors<sup>2</sup> that results in unpleasant facial esthetics.

This is a case of a 26-year old Filipina who sought orthodontic treatment at the UPCD Graduate Program in Orthodontics with the chief complaint of "Gusto kong magstraight ang ipin ko" (I would like my teeth to straighten). Her clinical and diagnostic records revealed a Class II Division 1 malocclusion relative to a prognathic maxilla with a normal mandible; proclined upper and lower incisors, steep mandibular plane angle with a vertical growth pattern.



Figure 1. Pre-treatment extraoral and intraoral photographs taken June 26, 2015 showing, asymmetric frontal proportion (A), convex profile (B), thick upper and lower lips (C), zero buccal corridor, palatally positioned 12 (D), asymmetric broad maxillary and mandibular dental arches (E & F), irregular teeth alignment (G) with moderate curve of spee (G & H).



Figure 2. Pretreatment Panoramic (A) and Cephalometric radiographs (B).

Pre-treatment procedures include removal of the four first premolars and third molars. Active orthodontic treatment commenced with the installation of the fixed .018 edgewise appliance and molar bands. After phase 1 of treatment, canine retraction was initiated. Bracket placement on 12 was done after there was enough space to protract the tooth into occlusion using piggy back mechanics with .012 NiTi.

En-masse retraction using .016 x 0.22SS with closing T-loop was activated by incorporating cinch-back. Moreover, moderate curve of spee was corrected using boot loop bends in the posterior segment and activated using 5° progressive tip back bends. Currently, the patient is on the final settling stage and is anticipating debonding.

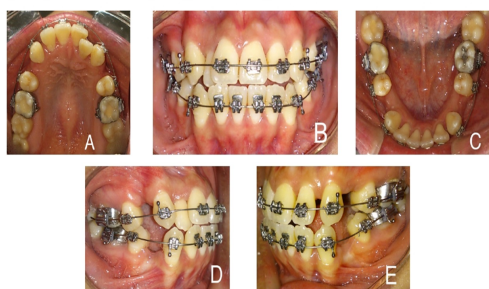


Figure 3. Progress Phase 1 intraoral photographs taken February 17, 2016 showing space mesial to 22 starting to appear (A), continuous levelling and alignment of the maxillary and mandibular teeth (B-E).



Figure 4. Progress Phase 2 intraoral photographs taken July 4, 2017 during re-level and alignment after anterior teeth en-masse retraction.



Figure 5. Progress panoramic radiograph taken September 5, 2018 for assessing root parallelism in the upper and lower teeth. Lightning bends were incorporated into the .017 x .025SS archwire.



Figure 6. Progress Phase 3 extraoral and intraoral photographs taken February 12, 2019 showing improved facial esthetics, symmetrical maxillary and mandibular dental arches, normal overbite and overjet and flat curve of spee. Continued wear of Class II Vector (Right side) and Class III Vector (Left side) box elastics 3/16 6oz for correction of midline coincidence.

<sup>1</sup> Bimaxillary protrusion: an overview of the surgical-orthodontic treatment. Chu YM et al. Semin Plast Surg. 2009  
<sup>2</sup> The rationale of maxillary premolar extraction only in Class II therapy. Kessel SP, AJODO 49(4), 276-293 1963.