Non-extraction Orthodontic Treatment in Management of Moderately Crowded Class II Division 2 Malocclusion: A Case Report

Othman SA MOth RCS (Edinburgh), Lecturer, Department of Children’s Dentistry and Orthodontics, Faculty of Dentistry, University Of Malaya, 50603 Kuala Lumpur, Malaysia.

ABSTRACT

A case report of a 13-year old male presented in his mixed dentition stage with a Class II division 2 incisor relationship on a mild Class II skeletal base, complicated by an increased overbite, retroclined upper and lower incisors (bimaxillary retroclination) and moderate crowding in the upper and lower labial segments. Treatment was undertaken without extraction employing an upper removable appliance with a flat anterior bite plane to correct the overbite, and an anterior screw to proclined the upper incisors while waiting for the eruption of the permanent teeth. Pre-adjusted edgewise fixed appliances were placed in the lower arch, then in the upper arch to level and align the dentition, achieve Class I incisor relationship, reduced the incisal angle and close residual spaces.

Key words: Orthodontics, Non-extraction, Class II division 2 malocclusion

INTRODUCTION

The definition of Class II division 2 malocclusions by the incisor relationship is the lower incisor edges are palatal to the cingulum plateau of the upper incisors. The overbite is increased and the upper incisors (and usually the lowers) are retroclined, with minimal overjet although it maybe increased. Characteristically, the lateral incisors may be proclined, mesially angulated, and mesiolabially rotated. Todd and Dodd reported that in the United Kingdom population, the incidence of Class II division 2 malocclusions is 5%. Other studies suggested 10 to 18%. Currently the incidence in Malaysian population has not yet been studied.

The common method to relieve crowding in moderately to severely crowded upper and lower arches is by extraction. The reasons for elective extractions in orthodontics are for relief of crowding, overjet and overbite reduction, anchorage considerations, buccal segment relationship correction and also to retroclined lower incisors for the correction of the Class III incisor relationship. Several disadvantages have also been proposed. There are mandibular dysfunction, a less attractive facial appearance, longer or more difficult treatment, pain, anxiety and other possible adverse effects of the actual extraction procedure.

Treatment of Class II division 2 malocclusions are best managed with non-extraction approach especially patients with a low mandibular plane angle and deep overbite, to avoid retraction of the incisors and protraction of the molars. Both of these movements will further deepen the overbite. In this case, a treatment of non-extraction for moderately crowded upper and lower segments in a Class II division 2 malocclusion will be presented.

CASE REPORTS

A 13-year old male presented at a new patient orthodontic clinic complained of crooked teeth of the upper and the lower arches. Clinical examination revealed a mild Class II skeletal base with average Frankfort mandibular planes angle. No facial asymmetry detected and no TMJ clicking on opening and closing or on lateral excursions. The lips were competent at rest and the lip line was high. The oral hygiene was fair with a few localise plaque deposits on intra-oral examination. The dentition was in a mixed dentition stage (Figure 1). Erupted teeth presented were:

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(p.e – partially erupted)