TWO PHASE ORTHODONTIC TREATMENT – A CASE REPORT

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There are few more compelling and controversial issues in orthodontics than the timing of treatment of various problems encountered in growing patients. More often the principal concern is the benefit of two phase treatment when compared to the single phase treatment. One reason for the controversy is that the added cost of the two phase protocol. However, this should not prevent the general practitioner from referring the patients for early orthodontic intervention, when indicated. Through the case report presented in this article, one should be able to identify the benefits of the two phase treatment that justify its cost.

Keywords: - Early treatment, two phase treatment, malocclusion.

Introduction and Background:

Much misunderstanding of preventive and interceptive orthodontics stems from the implication that early treatment of malocclusion in children precludes the need for later orthodontic treatment. Early treatment is defined as the treatment started in either primary or mixed dentition that is performed to enhance the dental and skeletal development before the eruption of permanent dentition[1].

The very essence of early treatment is 'timing'. Why allow abnormal functions and habits to continue and develop into severe malocclusions and jaw discrepancies in a growing child?

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Such early treatment followed by second phase treatment does not only improves the patient's self esteem but also allows for greater patient's compliance. The latter also translates into the benefit for the clinician, who then, has even more treatment options to consider.

Diphasic or at times even triphasic treatment hence, appears more logical and sensible[2].

Case report:

A 14 year old male patient reported with the chief complaint of forwardly placed upper front teeth.

Extraoral examination revealed mesocephalic head shape, mesofacial form, convex profile with posterior divergence. Furthermore it was obscrved

Continued on Page 112



Fig. 1 (a) Pre treatment : Extra oral photographs.

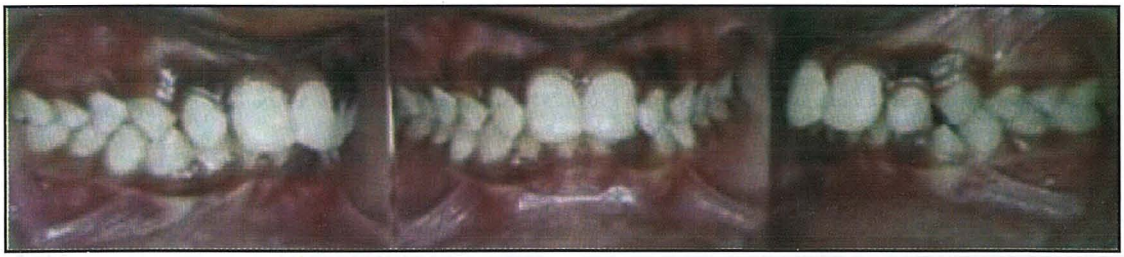


Fig. 1 (b) Pre treatment : Intra oral photographs

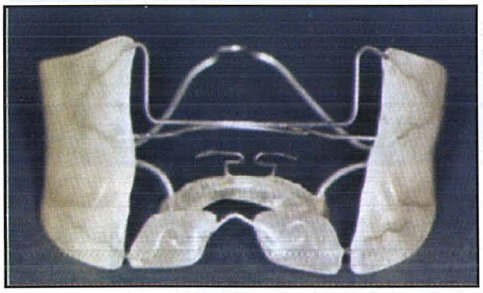


Fig. 2 Frankel II Appliance (Phase I treatment)

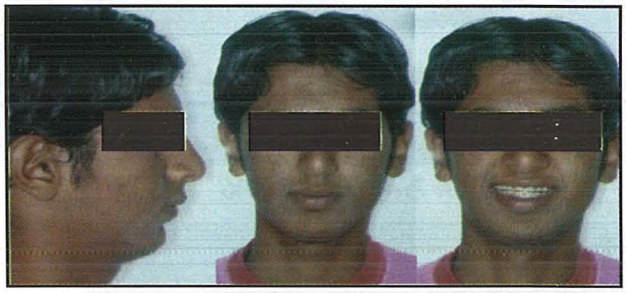


Fig. 4(a) Post treatment: Extra oral photographs.

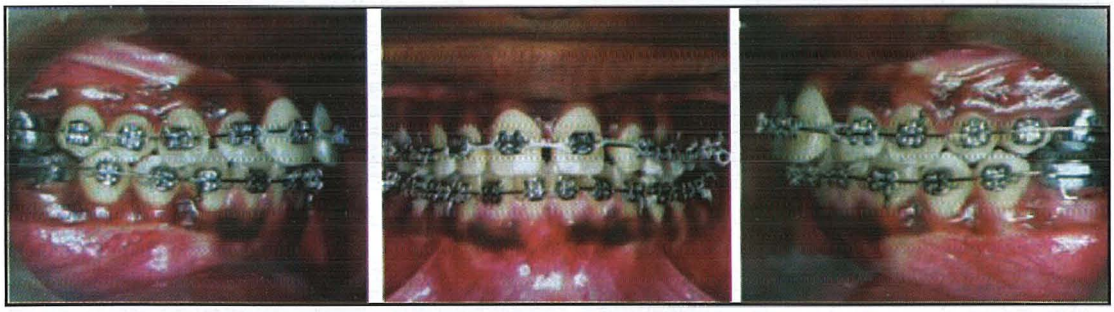


Fig. 3. Progress of phase II treatment.



Fig. 1 (b) Post treatment : Intra oral photographs.

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Continued from Page 102

that the lips were habitually parted with the lower one sucked in behind the upper incisors. Functionally, hyperactivity of mentalis was also observed when the patient made conscious effort to bring both the lips together (Figure 1(a)).

Intraorally, all permanent teeth except the third molars were present in the oral cavity. Premolars, however, were only partially erupted at the start of the treatment. Although the molar relationship was class I bilaterally, both overjet and overbite were increased (Figure 1(b)). Infact, maxillary maladies like increased overjet with proclined upper incisors became self perpetuating and encouraged entrapment of lower lip that continued to move maxillary incisors forward while preventing the mandible to express its growth to its full potential.

Amongst several other findings which were in accordance with the clinical examination, cephalometric analysis revealed mild class II skeletal bases with lower anterior facial height matching the upper anterior facial height.

Considering the above findings, it was decided to undertake two phase treatment:

Phase I : one year of active treatment with Frankel II appliance (Figure 2). Frankel appliance was primarily designed to not so much change the form of the dental arches as eliminate abnormal perioral muscle functional effects on the developing dento- alveolar area. Following phase, a longer period of functional retention was advised to stabilize the training effect of the appliance and to protect the further dentoskeletal development from the adverse influence of the functional disorders.

Phase II (Figure 3) : This was the finishing phase after the complete eruption of all permanent teeth (except the third molars). Preadjusted edgewise appliance was used for this phase of therapy. Extrusion of molars as compensated by the vertical growth of ramus led to stable correction of deep bite (Figure 4(a, b)).

Conclusion:

Recognition of the need for two phase treatment followed by its execution is important because its benefits, both for the patient as well as the clinician, far outweigh the increased cost of the treatment.

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