

THE USE OF CATLAN'S APPLIANCE FOR RAPID CORRECTION OF PSEUDO CLASS III MALOCCLUSION

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ABSTRACT: In this case report, the use of a cemented lower anterior inclined bite plane (Catlan's appliance) for the correction of a pseudo Class III malocclusion is shown in a growing child. The differential diagnosis of pseudo malocclusion and the advantages and disadvantages of the use of Catlan's appliance are discussed

KEYWORDS: Anterior crossbite, Pseudo Class III, Malocclusion, Catlan's appliance

INTRODUCTION

Pseudo Class III malocclusion is characterized by a forward shift of the mandible due to incisal interferences caused by retroclined upper incisors. The treatment aims at proclining the upper incisors in order to obtain a normal incisor relationship. A cemented lower anterior inclined plane is a very effective treatment modality in these type of malocclusions.

Case Report

A 10 year old boy reported with the complaint that his lower front teeth were biting in front of the upper teeth. Frontal examination of the face revealed over competence of the lips (**Fig.1**) while profile examination with mouth closed revealed reduced lower face height and an apparent mandibular prognathism (**Fig.2**). Profile examination in mouth open position showed an acceptable profile (**Fig.3**) suggesting that the mandibular prognathism is probably caused by over closure. Intraoral examination showed that the upper deciduous cuspids were about to exfoliate and all the other permanent teeth up to the permanent first molars were present. There was a severe anterior cross bite present to the extent that the upper incisors were invisible upon full closure (**Fig.4**). However, the upper incisors were retroclined (**Fig.5**) and also it was possible to guide the mandible into an edge to edge relation (**Fig.7**). The diagnosis was pseudo Class III problem due to retroclined upper incisors leading to forward positioning of the lower jaw and over closure. The child's parents had visited another dentist prior to visiting our clinic and were told that surgery would be required

later because of the severity of the problem. Because of this they were very apprehensive and worried for their child. The treatment of choice in this case was a fixed acrylic lower anterior inclined bite plane (**Fig.8 and Fig.9**). It has the advantage of effecting rapid correction of the problem which we deemed important in order to reassure the parents of the child and it would also stimulate vertical growth by permitting eruption of the posterior teeth. The anterior crossbite was corrected after 3 weeks (**Fig.10**). At this time, the posterior teeth were out of occlusion, so an upper Hawley's appliance with and anterior bite plane was given till the posterior teeth came into occlusion (**Fig.11**) at which time fixed appliances were placed to correct the alignment of the teeth.

Discussion

Pseudo Class III malocclusion results from a forward shift of the mandible to escape incisor interferences in what is really an end-to-end relationship and is frequently not a reflection of a true Class III jaw relationship¹. However, Rabieet al² suggested that apart from retroclined upper incisors, it is also characterized by retrusive upper lip, decreased midface length, and increased maxillary-mandibular difference.

Pseudo Class III malocclusion is a condition that responds very well to treatment provided the condition is recognized early and proper treatment is initiated. Various appliances have been used to correct this problem. These

include a modified Hawley's appliance with an inverted labial bow³ and the Balter's Bionator⁴.

Catlan's appliance uses natural forces to bring about rapid correction of anterior cross bites. According to White et al⁵, it is of value in young patients whose permanent molars have not yet erupted but who have had the misfortune to have their deciduous molars extracted and have lost all molar occlusal contact. Since it tends to erupt

posterior teeth, it might prove particularly useful in the correction of pseudo Class III cases characterized by over closure and reduced lower facial height. Care should be taken to ensure that the child does not indulge in the habit of thrusting the mandible forward to engage the capping against the labial surface of the upper incisors. It is economical and easy to fabricate and doesn't require much chair side time. However, like any other fixed appliance, oral hygiene is a problem and should be strictly

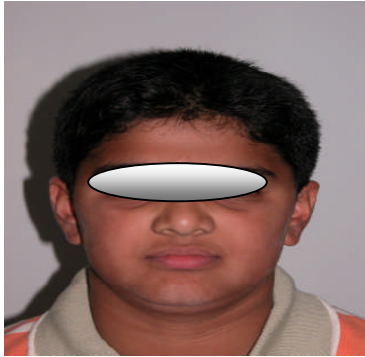


Fig.1. Frontal view showing reduced lower face height

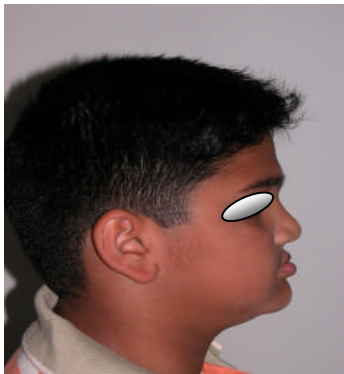


Fig.2. Profile view showing the severity of mandibular prognathism caused by over closure

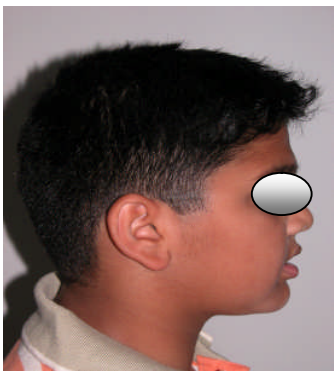


Fig. 3 Mouth open posture in profile view showing improvement in profile



Fig.4 Intraoral view showing the degree of anterior cross bite



Fig.5 Occlusal view showing the degree of retroclination of upper anteriors



Fig.6 Occlusal view showing the normal inclination of lower incisors



Fig.7. Frontal view showing patient biting edge-to-edge



Fig.8. Catlan's appliance cemented in place



Fig.9. Patient biting on the appliance



Fig.10. Anterior cross bite corrected after 3 weeks



Fig.11 . Posterior teeth in occlusion after 6 weeks

monitored. Since only soft diet is possible when it is in place, motivation of the patient plays a crucial role in treatment success

CONCLUSION

The Catlan's appliance is a very effective appliance in the treatment of pseudo Class III malocclusions in growing patients

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