AESTHETIC REHABILITATION OF A CHILD WITH MISSING ANTERIOR TEETH AND THUMB SUCKING HABIT USING FIXED FUNCTIONAL SPACE MAINTAINER IN COMBINATION WITH HABIT BREAKING APPLIANCE

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ABSTRACT: Loss of anterior teeth is a psychological trauma both for parent as well as children. Children presenting with lost anterior teeth along with thumb sucking habit require not only attention for aesthetics, function and space maintenance but also an appliance for habit breaking. Depending on many clinical and economic factors, a course of treatment is decided by the dentist in consultation with parent and child. A new technique is presented in which a child with anterior teeth missing and concomitant “thumb sucking” habit was given a fixed functional space maintainer with incorporated palatal crib.

KEYWORDS: Aesthetic Rehabilitation, Palatal Crib, Space maintenance, Thumb sucking, Fixed functional Space maintainer

INTRODUCTION

‘Due to the increase in patients’ esthetic demands and expectations in dentistry, the traditional “need-based” discipline, has become “want-based”. A large number of patients are seeking appearance related treatment which contributes to a self-esteem and overall well-being.

The current trend is resulting in a variety of new techniques, materials and devices for the profession (Walmsley AD, 2010). In school going children peer pressure is high and poor looks invite ridicules, such patients are likely to have psychological problems in the long run. Hence it is prudent to give them an aesthetic treatment option which is easily maintained without impeding future growth and dental treatments. Treatment of partially edentulous patients with missing anterior teeth presents cosmetic, functional, retention challenges in children.

The problem gets even more complicated for the dentist if the child has missing anterior teeth along with thumb sucking habit. Here is a case report in which a fixed functional space maintainer with palatal crib was given.

Case report:

A 5year old male child reported to the Department of Paedodontics and Preventive Dentistry, St. Joseph Dental College, Eluru, India, with the chief complaint of missing lower deciduous front teeth. Patient had a slurred speech due to the same. (Fig.1)

The patient appeared to be moderately built and moderately nourished. General examination of the patient did not show any abnormality or syndromic manifestations. History from the parents revealed that patient has the habit of thumb sucking since 3.5 years and which is still persisting. Intra-oral examination revealed mobility of 51, root stumps of 52, 61 dental caries in relation to 73, 74, 83, 84, in which 74 is grossly decayed, deep occlusal caries involving pulp with respect to 75 and missing lower anteriors.

OrthoPantomograph (OPG) and intra oral radiographs were taken which revealed the presence of mesiodens, root stumps of 52, 61, 62 grossly decayed 74 and normally developing lower anterior tooth buds with sufficient...
Fig. 1. Patient with missing lower Anterior teeth

Fig. 2. Acrylic teeth attached to rake-Upper arch

Fig. 3. Acrylic teeth attached to rake-Lower arch

Fig. 4. Natural appearance of the prosthesis.

amount of bone covering them. The delayed eruption of the upper anteriors was thought due to mesiodens and later was confirmed by occlusal radiograph.

Because of the parent’s concern about their child’s appearance and taking into consideration the size, number and distribution of his teeth a treatment plan was devised where in it was decided to extract the mesiodens, 51 and root stumps of 52, 61, 62 and 74, perform pulpectomy for 75 followed by stainless steel crown, restore 73, 83, 84 with glass ionomer cement.

After the extraction, one week later, orthodontic band adaptation was done on maxillary and mandibular second molars. An alginate impression was made and cast was prepared. 0.9 mm gauge wire was adapted in the fashion of Nance palatal arch and lingual arch for upper and lower arches respectively, a fixed functional partial denture along with a functional space maintainer was constructed in the lower arch. For maxillary arch the wire was soldered to the orthodontic bands posteriorly, palatal crib was prepared and soldered to the arch, wires in the form of rakes were soldered to the arch in the edentulous areas, so that acrylic can be placed, subsequently teeth were placed on the rake like wires and acrylised. (Fig.2 and Fig.3)

After one week, the appliance was fitted in the child’s mouth by cementing the bands on the second molars with the luting cement. Both the child and the parents were pleased with the new look of the child, which gave him a normal appearance. (Fig.4)

The patient and his parents were given instructions regarding the importance of oral hygiene and regular recall visits. At subsequent visit, a window was made in the upper and lower prosthesis to allow for the normal eruption of permanent central incisors and patient was recalled for check up at regular intervals.

Discussion

Losing a tooth can be physically and emotionally disturbing, as these resulting empty sites are functionally damaged and the aesthetic appearance bothers the parents as well as the child, in addition to psychological problems affecting the child in relation to his teeth loss. The proper sequencing of treatment is important to achieve the desired functional and esthetic results.

The treatment options in these cases are removable partial dentures or fixed partial dentures. Choosing a treatment depends on factors associated with each case regarding the child age, oral hygiene, child cooperation as well as parents’ desire of having fixed or removable replacement.

The prosthetic treatment should be carried out on an individual basis, aimed always towards providing good occlusal stability, esthetics, phonation and mastication.
These factors instil greater self confidence in the child and help him gain acceptance.

The fixed partial denture is recommended especially as the removable partial dentures are considered to provoke discomfort or if the children cannot tolerate such an appliance because of their age.

This case report illustrates the importance of taking a flexible approach to best address the evolving masticatory, aesthetic, and psychosocial needs of the child. The main objective of the treatment was to provide a functional space maintainer and esthetically restore patients missing teeth to enhance esthetics, function and to aid in habit breaking.

In conclusion, it can be stated that timely intervention is the key aspect of treating any child patient. With regular recall check up and treatment, several problems could be prevented or corrected at an earlier stage so that, from a functional perspective, speech and masticatory ability are not affected and from psychological point of view such a child will adjust well to the society.

SUMMARY AND CONCLUSION

The use of fixed partial acrylic prosthesis is an interesting and practical alternative that provides a relatively quick, easy, acceptable and economical solution to this functional and esthetic oral rehabilitation in patients with pronounced edentulism. It helps to normalize the function of masticatory and perioral muscles consequently the growth pattern of basal bones and gives psychological boost to the self – image of the child. Early rehabilitation of children with fixed partial denture will go a long way in helping them interact normally with their peers. But one must remember that any form of restoration or prosthesis should provide better alternative confirming with the age of the patient.

References


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