

CASE REPORT

FIXED FUNCTIONAL SPACE MAINTAINER FOR A CHILD WITH SEVERE ECC- A CASE REPORT

Mahak Aggarwal¹, Avninder Kaur², Shivesh Acharya³, Vaibhav Munjal⁴

¹MDS 3rd Year student, ²Professor and Head, ³Reader, ⁴Professor

Department of Pediatric and Preventive Dentistry, Bhojia Dental College and Hospital, Bhud, Baddi, H.P.

ABSTRACT:

Esthetic rehabilitation and space maintenance of a young toddler with multiple tooth loss subsequent to early childhood caries is a major challenge for the pediatric dentist. Premature loss of primary anterior teeth causes psychological, functional and esthetic disturbances, which have negative impact on the child's behavior, while premature loss of posterior teeth causes space loss and later on may result in malocclusion. This case report describes the management of Severe ECC with a fixed functional space maintainer.

Key words: Esthetics, Space maintainer, ECC.

Corresponding author: Dr. Mahak Aggarwal, MDS 3rd Year student, Department of Pediatric and Preventive Dentistry, Bhojia Dental College and Hospital, Bhud, Baddi, H.P.

This article may be cited as: Aggarwal M, Kaur A, Acharya S, Munjal V. Fixed functional space maintainer for a child with severe ECC- A case report. *Int J Res Health Allied Sci* 2016;2(1):41-42.

INTRODUCTION

Esthetic rehabilitation and space maintenance of a young child with multiple tooth loss subsequent to EEC is a major challenge and when associated with the bottle feeding habit, affects the primary maxillary anterior teeth first, followed by the involvement of the primary molars. The extent of carious involvement in the maxillary incisors is almost always extreme, and by the time child reports to dentist, much of anterior clinical crowns are lost.¹ Then, the esthetic replacement for lost primary anterior teeth becomes mandatory in providing positive psychological impact.^{2,3} This case report illustrates an interim fixed functional space maintainer appliance for badly decayed primary maxillary incisors and molars.

CASE REPORT

A five year old boy reported to the Department of Pediatric and Preventive Dentistry, Bhojia Dental College and Hospital with chief complaint of decayed upper front and lower back teeth (Figure1). The child was well oriented to time, space and person and had no relevant medical history. Intra-oral clinical examination revealed multiple carious teeth and missing both maxillary first molars. For investigation the patient was advised radiograph of 51, 52, 61, 62, 54, 64 and 74 region. The child's behavior was positive (Frankle Behaviour Rating III). Parents

consent was taken after explaining the type, time and cost of the treatment.

Counseled and diet history evaluation was done which revealed the use of bottle feeding with sweetened milk and consumption of sweet snacks 4-5 times in a day. The flow rate of saliva was 3ml/5min (very low), the pH was moderately acidic (6.2) and the buffer capacity of stimulated saliva was 6 (low) estimated by the use of "GC- Saliva Check kit". Hence as the child was at high risk for caries a comprehensive preventive schedule was planned including professional topical fluoride application every three months, brushing twice daily with fluoridated toothpaste, diet counseling and active surveillance of incipient lesions during regular flow ups. Composite resin build up of 74, 75, 53, 63, 55, 65, 84 and 85 was done followed by extraction of 51, 52, 61 and 62 under local anesthesia on the later visits (Figure 2). This appliance was planned to restore form, function and esthetics in anterior region of the upper arch and to prevent space loss in posterior region by acting as a functional space maintainer. On following visit, orthodontic bands were adapted on 55 and 65 and impressions followed by working models were made. A 19 gauge stainless steel wire was adapted on palatal arch in U-shaped form, 0.5mm above the palatal surface and its distal end soldered with bands. Acrylic teeth were trimmed to the desired



FIGURE 1 PRE-OPERATIVE INTRAORAL PHOTOGRAPHS



FIGURE 2 MID-TREATMENT INTRAORAL PHOTOGRAPHS



FIGURE 3 POST-OPERATIVE PHOTOGRAPH WITH FIXED FUNCTIONAL SPACE MAINTAINER

size and fitted to estimated positions buccal to the wire. After acrylisation, trimming and polishing, the appliance was cemented and occlusion was checked (Figure 3). Follow up examination after 24 hours was done and recall after every 3 months was advised.

DISCUSSION

Premature loss of primary anterior teeth at the age of 5 years leads to esthetic problem, tipping of adjacent teeth, over-eruption of antagonist teeth; midline deviation, masticatory impairment or can develop the tongue thrusting habit. It does not affect speech as it is developed between 18-36 months of age. Space loss does not happen in anterior region at this age. As space maintenance is not generally necessary in this region, these appliances should only be planned in cases of esthetic consideration. In case maxillary incisors are missing, many clinicians go for placement of Gropper's appliance, fixed esthetic

space maintainer appliance, pontic fiber reinforced prosthesis or even removable partial denture.

CONCLUSION

To conclude, the primary concern of a pediatric dentist is to restore function, esthetics and prevent any developing oral habits. Pediatric dentist should also motivate and educate to inculcate healthy oral habits.

REFERENCES

1. Waggoner WF, Kupietzky A. Anterior esthetic fixed appliances for the preschooler: considerations and a technique for placement. *Pediatr Dent* 2001;23:147-150.
2. Steffen JM, Miller JB, Johnson R. An esthetic method of anterior space maintenance. *J Dent Child* 1971;38:154-157.
3. Klapper BJ, Strizak-Sherwin R. Esthetic anterior space maintenance. *Ped Dent* 5(2):121-123, 1983.

Source of support: Nil

Conflict of interest: None declared

This work is licensed under CC BY: [Creative Commons Attribution 3.0 License](https://creativecommons.org/licenses/by/3.0/).