

# Full Mouth Rehabilitation in Early Childhood Caries- A Case Report.

Anika Uppal<sup>1</sup>, Rajender Singh<sup>2</sup>

<sup>1</sup>MDS (Pedodontics), <sup>2</sup>MDS (Prosthodontics) Medical Officer (Dental), Department of Health and Family Welfare, Himachal Pradesh, India.

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## ABSTRACT

Early childhood caries (ECC) affects the oral health of infants and children leading to deterioration of general body health. Early loss of primary anterior teeth lead to loss of masticatory efficiency, compromised esthetics, mispronunciation of labiodentals sounds and development of abnormal oral habits. The restoration of grossly decayed deciduous teeth especially anterior ones presents a major challenge to dentists, particularly in uncooperative children. The following case report of early childhood caries documents the restoration of severely decayed deciduous teeth to improve their oral and general health and help them to gain more self-confidence.

**Keywords:** Early childhood caries, full mouth rehabilitation, pediatric endodontics.

## INTRODUCTION

Dental caries is a common chronic infectious transmissible disease resulting from tooth-adherent specific bacteria, primarily mutans streptococci (MS), that metabolize sugars to produce acid which, over time, demineralizes tooth structure.<sup>[1]</sup> Early childhood caries (ECC) is the presence of one or more decayed, missing or filled tooth (DMFS) surfaces in any primary tooth in a child 71 months of age or younger.<sup>[2]</sup> The disease of ECC is the presence of one or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child under the age of six. In children younger than three years of age, any sign of smooth-surface caries is indicative of severe early childhood caries (S-ECC). From ages three through five, one or more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary anterior teeth or a decayed, missing, or filled score of greater than or equal to four (age 3), greater than or equal to five (age 4), or greater than or equal to six (age 5) surfaces also constitutes S-ECC.<sup>[3]</sup>

Although it is multifactorial, improper feeding practices and adoption of more cariogenic food with the weaning of milk during this age is one of the reasons for this disease.

The loss of anterior teeth in children can lead to reduced vertical dimension and unesthetic smile which effect the child psychologically. Thus, it can interfere with the personality and behavioral development of the child.<sup>[4]</sup> It follows a characteristic pattern of development: maxillary

incisors are affected first followed by maxillary then mandibular molars, and due to the protective nature of the tongue, the mandibular incisors are often spared.<sup>[5]</sup>

Treatment of S- ECC is complex and expensive. Age group 2-5 years are the least manageable group of patients. If patient cooperation is lacking, the treatment becomes very difficult. Then it has to be performed under sedation. Here is a case of ECC treated in our department.

## CASE REPORT



**Figure 1a: Pre-operative photographs**

A 5 year old boy presented with the chief complaint of pain in left lower back tooth region and of decayed front teeth. Pain was sharp, shooting, throbbing, radiating in nature, increased during night and on lying down. For anterior teeth, mother told that these teeth started decaying when patient was of 4 years. And now no sensitivity to cold present in two anterior teeth. It was first dental visit of patient and unfamiliar to dental environment. However when familiarization was done, the patient showed a Frankel behavior with positive rating. The intraoral findings showed that in the maxillary arch 51,52,54,61,62,65 were carious, out of which 51,61 were pulpally involved.

### Name & Address of Corresponding Author

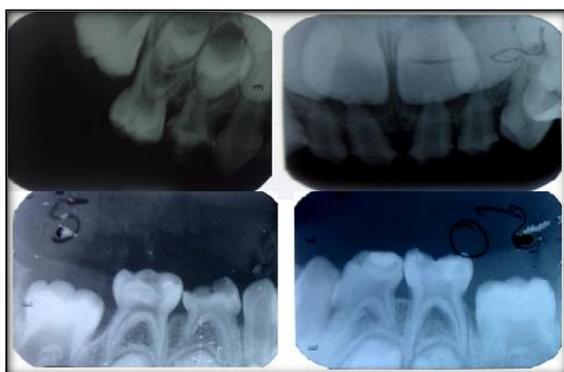
Dr. Rajender Singh,  
MDS (Prosthodontics),  
Medical Officer (Dental),  
Department of Health and Family Welfare,  
Himachal Pradesh, India.

Root stumps of 64 was present. In the mandibular arch carious teeth were 74,75,84,85 out of which 75, 84, 85 were pulpally involved. Pre-operative intra oral photographs [Figure 1a & 3a] and Pre-operative radiographs (IOPA) were taken [Figure 2a]



**Fig 1b Post Operative photographs**

Diagnosis was made as Severe Early childhood caries. Irreversible pulpitis w.r.t 51,61,75,84, 85 was diagnosed. Other findings were carious 65, deep caries w.r.t 54,74 and grossly decayed 64. Treatment objectives were restoration of carious teeth and endodontic treatment of pulpally involved teeth, arrest and control of carious process, institution of preventive process, esthetic and functional rehabilitation. The treatment of the patient was done in multiple visits.



**Figure 2a: Pre-operative IOPA**



**Figure 2b: Post-operative IOPA**

In the first visit X rays were advised, Fluoride application topically, restoration of 54,74, access opening w.r.t 75,51,61. Parent counseling was done to maintain the diet chart and twice a day brushing with fluoridated toothpaste.

In the second visit analysis of the diet chart was done. The sweet score came out to be 35 which means the patient was in the watch out zone. Parents were advised to control sticky snacks between the meals. Diet modification was done. The restorations were reassessed. SSC was placed over 74 and irrigation and dressing done in 75.

In third and subsequent visits SSC over 54 after IPT was placed, endodontic treatment for 75, 84, 85 done followed by stainless steel crowns, endodontic treatment for 51, 61 followed by composite build up in 51,52,61,62. Extraction of 64 was done followed by band and loop space maintainer. Full mouth rehabilitation was done. Post-operative IOPAs were taken [Figure 2b]. Post-operative Intraoral photographs were also taken [Figure 1b & Figure 3b].



**Figure 3a: Pre-Operative U/L arches**



**Fig 3b. Post-Operative U/L arches**

## DISCUSSION

Dental caries (decay) is ubiquitous and is one of the most prevalent infectious diseases of man. It is a localized, progressive demineralization of the hard tissues of the crown (coronal enamel, dentine) and root (cementum, dentine) surfaces of teeth. Dental caries results from the interplay of: dietary carbohydrates, cariogenic bacteria within dental plaque and susceptible hard tooth surfaces. Dental caries is age-related. Prevalence begins soon after tooth eruption in susceptible children and increases with age.<sup>[6]</sup>

Poor self-esteem, behavioral and social interaction problems, delayed speech development, lost school days and difficulty learning are some of the problems faced by children with ECC. Functional rehabilitation, esthetic rehabilitation of young children is also important for their personality and confidence.

The management part of ECC included behavior modification, restorative work, endodontics, space management, prosthetic, and esthetic rehabilitation and the control of further progression of caries. The patient and his parents were happy and satisfied with the functional and esthetic restorations. Restorations were found to be serving well when checked in recall appointments. Patient had improved oral hygiene and behavior in follow up visits.

## CONCLUSION

ECC is a significant public health problem, the manifestations of which are symptomatic of

important underlying maternal and pediatric problems. It has a debilitating effect on the development, speech, general health and self-esteem of children. Parents and all personnel involved in the health and welfare of children should be able to recognize its early signs so that appropriate preventive measures can be instituted.

## REFERENCES

1. Loesche WJ. Role of Streptococcus mutans in human dental decay. Microbiol Rev 1986;50(4):353-80.
2. American Academy of Pediatric Dentistry. Definition of Early Childhood Caries (ECC). American Academy of Pediatric Dentistry 2009-10 Definitions, Oral Health Policies, and Clinical Guidelines. 2008. p. 13.
3. Drury TF, Horowitz AM, Ismail AI, et al. Diagnosing and reporting early childhood caries for research purposes. J Public Health Dent 1999;59(3):192-7.
4. Rocha Rde O, das Neves LT, Marotti NR, Wanderley MT, Corrêa MS. Intracanal reinforcement fiber in pediatric dentistry: A case report. Quintessence Int 2004;35:263- 8.
5. Milnes AR. Description and epidemiology of nursing caries. J Public Health Dent 1996;56:38- 50.
6. Dawes C: Fluorides: mechanisms of action and recommendations for use. J Can Dent Assoc 1989; 55: 721-723

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