CASE REPORT

24(101), January - February, 2020

ISSN 2321–7359 EISSN 2321–7367

Medical Science

Full mouth rehabilitation of a pediatric patient under general anesthesia-A case report

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Article History
Received: 16 August 2019
Reviewed: 18/August/2019 *to* 1/October/2019
Accepted: 04 October 2019
Prepared: 09 October 2019
Published: January - February 2020

Citation
Shreyans Jain, Nilesh Rathi, Nilima Thosar, Sudhindra Baliga, Pooja Bhansali, Kalyani Rathi, Nikita Sharma. Full mouth rehabilitation of a pediatric patient under general anesthesia-A case report. *Medical Science*, 2020, 24(101), 22-25

ABSTRACT

Dental caries is the one of the most common chronic childhood disease. In early childhood caries, there is early pulp involvement and gross destruction of the maxillary anterior teeth as well as posterior teeth. This leads to decreased masticatory efficiency, difficulty in speech, compromised esthetics, development of abnormal tongue habits and subsequent malocclusion and psychological problems. The restoration of severely decayed primary incisors is often a procedure that presents a special challenge to dentists, particularly in an uncooperative child. This case report documents the restoration of severely mutilated deciduous teeth in an emotionally immature patient under general anesthesia.

Keywords: General anesthesia, Full mouth rehabilitation, pharmacological behavior management

1. INTRODUCTION

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 (AAPD, 2008; Rathi et al., 2014). In children aged 3–5 years, severe ECC (S-ECC) is defined as: one or more cavitated, missing (due to caries) or smooth filled surfaces in primary maxillary anterior teeth, or DMFS scores of ≥4 (age 3), ≥5 (age 4), or ≥6 (age 5) (Drury et al.,1999). 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 (Milnes AR, 1996).

ECC has multifactorial etiology. One of the reasons is improper feeding practices adopted and adoption of more cariogenic food with the weaning of milk during this age (Patil et al., 2018). 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 (Rocha et al., 2004). When these teeth are lost, replacement, and prosthetic management is very important to restore all functions including esthetics of the child. Treatment of S-ECC is complex and expensive, often requiring extensive restorative treatment and extraction of teeth at an early age.

The primary techniques for treating children with ECC in the dental chair are non-pharmacologic behavior-management techniques. Other methods such as conscious sedation are also widely used (Enger DJ and Mourino AP, 1958). However, in some circumstances these techniques may fail and the use of general anesthesia (GA) is the only choice of behavior management for dental treatment for pediatric patient in a safe and effective way (Johnsen DC, 1982).

This case report describes the challenging task of rehabilitating a 4-year-old S-ECC patient with uncooperative behavior.

2. CASE REPORT

A 4-year-old male patient reported with a complaint of severely decayed teeth in upper front and right and back region of jaw since 4 months. The child was emotionally immature and highly uncooperative with definitely negative Frankel rating. Intraoral examination revealed multiple carious lesions, and 51, 61, 54, 64, 74, 75, 84, 85 showed pulp involvement. It was decided to do pulpectomy in relation to 51, 61, 54, 64,74, 75, 84, 85 followed by glass ionomer cement (GIC) restoration and stainless steel crown placement in relation to 54, 64, 74, 75, 84, 85 strip crown in 51, 52, 61 and 62, light cure composite restoration in relation to 53, 63. Consent was taken from the parents. After due appointment, the patient was admitted to AVBRH,

Sawangi (Meghe), Wardha, and pre-anesthetic evaluation was done before general anesthesia. Under GA, pulpectomy followed by GIC restoration and stainless steel crown placement was done with the posterior teeth. Composite restoration (strip crowns) following pulpotomy was done with 51,52,61,62 and restoration were performed with 53, 63; all procedures were carried out along with the other required treatments.

The occlusion was checked and removal of any interference was carried out. Then final finishing and polishing of the restoration was done using soflex tips. After completion of the procedure, a post-operative photograph (Figure 1-4) was made. Home care instructions were given to the patient parents, including oral hygiene measures and diet counseling. Recall checkup was scheduled after a period of 1 week, followed by recall checkup after every 6 months to assess the maintenance status of oral hygiene and for performing checkup procedures in the child's mouth.

Figure 1 Pre-operative Intraoral Photos

Figure 2 Pre-operative IOPA's

Figure 3 Post-Operative Intraoral Images

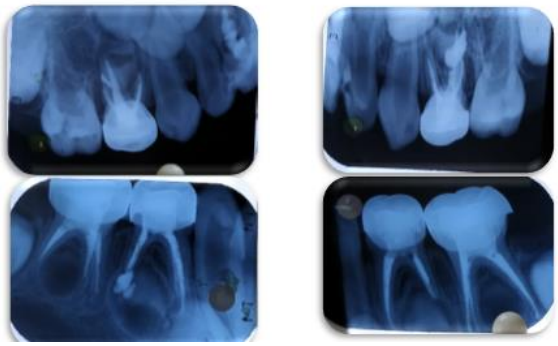

Figure 4 Post-Operative IOPA's

3. DISCUSSION

Dental treatment under GA is an expensive alternative but on certain occasions the method of choice for treating unmanageable children. It is indicated for very young pediatric population who requires extensive restoration of teeth and is unable to accept treatment in the dental chair. Treatment under GA is also indicated for children who are medically compromised, or those who require oral surgical procedures (Milnes AR, 1996). An important consideration for children who are unable to cooperate due to fear, anxiety or young age is their subsequent acceptance of care using other methods with low risk and low impact (Patil et al., 2018). The aim of GA is to restore the child's oral health in a single visit, allowing behavior-modification methods to be introduced more readily afterwards (Ripa LW, 1988). In addition to functional rehabilitation, esthetic rehabilitation of young children is also important for their personality and confidence development. Therefore, it was decided to treat the patient under general anesthesia.

The patients were very happy and satisfied with the functional and esthetic restorations. Restorations were found to be serving well when checked in recall appointments. All three patients had improved oral hygiene and behavior in follow up visits. Stainless steel (preformed) crowns were delivered in endodontically treated teeth, in addition was also used as an abutment for space maintainer as advocated by some authors (Rocha et al., 2004).

4. CONCLUSION

This approach of full mouth rehabilitation under general anesthesia offers the advantage of providing extensive oral rehabilitation within a short period of time and in a single visit. This helps in immediate relief of pain, even with little or no cooperation from the child. However, it has little effect in promoting oral health and acceptance of routine dental care.

Funding:
This research received no external funding.

Conflicts of Interest:
The authors declare no conflict of interest.

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