

## AESTHETIC RESTORATION OF MUTILATED DECIDUOUS ANTERIOR TEETH WITH STRIP CROWNS: A CASE REPORT

Ayushi Agarwal<sup>1</sup>, Rishika<sup>2</sup>, Zakiya Perveen<sup>3</sup>, Kapil Dev Gupta<sup>4</sup>, Ramakrishna Yeluri<sup>5</sup>

*PG Student<sup>1</sup>, Senior Lecturer<sup>2,3</sup>, Professor<sup>4</sup>, Professor and Head<sup>5</sup>*

*Department of Pedodontics & Preventive Dentistry, Teerthanker Mahaveer Dental College & Research Centre, Delhi Road, Moradabad, UP*

### Abstract

Dental caries is the common disease in children which can affect the maxillary anterior teeth at a young age and result in the loss of dental crowns. The rehabilitation of primary teeth's appearance and functionality is thus a problem for pedodontists. This current report describes a case of a 5-year-old child with decayed maxillary incisors restored with strip crown technique. The restoration of the patient's smile and self-esteem was made possible with the help of strip crowns in fabrication of composite build up.

**Keywords:** Early childhood caries, strip crown, composite resin

### 1. INTRODUCTION

Oral health plays a major part in child's overall health. In addition to affecting the child's enjoyment of life, oral health issues can change the child's overall growth and health status. Dental caries is the most prevalent oral health problem. Early Childhood Caries (ECC) is a condition that can occasionally afflict even very young children, shortly after the emergence of the first teeth. American Academy of Pediatric Dentistry defined ECC as “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 71 months of age or younger”.<sup>1</sup>

In addition to mastication and enunciation, maintaining the maxillary primary incisors is necessary for aesthetic purposes, to prevent abnormal swallowing behaviors. The best aesthetic material and restoration method for primary teeth are still up for debate, making aesthetic restoration of deciduous teeth in child patient a continuing issue for paedodontists. Numerous aesthetic treatment strategies have been created for managing decayed primary teeth as a result of improvements in dental materials and conservative dentistry procedures.<sup>2</sup>

Dental fillings and tooth crowns can completely cover a tooth as choices for tooth restoration. Stainless steel crowns were the first forms of crowns employed, but they are not aesthetic. The composite resin strip crown is the most common and alluring of all preformed aesthetic crowns available for primary incisors. Webber and colleagues first introduced these crowns in 1979. Strip crowns are prefabricated, thin, transparent crowns made of celluloid that are used throughout the restoration process to support the restorative material as it is put to the prepared tooth. Once the restorative material has set, crowns are peeled off from the teeth.<sup>2</sup> Cases in which aesthetic restoration of severely damaged dental teeth, strip crowns is a preferable option as it enables coverage of the remaining tooth structure, fosters an aesthetic result.<sup>3</sup>

This report presents a case of early childhood caries patients with decayed upper front teeth restored with strip crown technique.

## 2. CASE REPORT

A patient age 5-year-old had reported to the Department of Pediatric and Preventive Dentistry, Teerthanker Mahaveer Dental College and Research Centre with the chief complaint from patient's parent was of

decayed teeth in his upper front tooth region since 1 year.

Intraoral examination showed dental caries in relation to 51, 54, 61, 62, 64, 74 (figure 1).



Figure 1: Intra-oral picture irt 51 61 62 (pre-operative)



Figure 2: RVG irt 51 61 62 (pre-operative)

On radiographic assessment caries were involving enamel, dentin and pulp in relation to 51, 61, 62 (figure 2). There were no sign and symptoms of pain in the involved teeth.



Figure 3: Selected strip crowns



Figure 4: Pulpectomy irt 51 61 62 (post-operative)

A small round bur was used to remove the entire carious region and then pulpectomy was done irt 51, 61, 62 followed by composite restoration using strip crowns (figure 4).



Figure 5: Modified strip crown (try-in)

Complete treatment was discussed with the patient's parent, after they gave approval, the treatment was carried out. Strip crowns were chosen prior to dental preparation by comparing the mesio-distal width of the available area (figure 3).

Crowns were modified to account for tooth height (figure 5). Crowns were modified to account for tooth height (figure 5).



Figure 6: Intra-oral picture irt 51 61 62 (post-operative)

To produce a core vent for releasing any trapped air bubbles in the crown, the palatal aspect of the crown was punctured with a pointed explorer. The composite resin of color A1 was then used to fill the stripcrowns. The excess material was removed with an exploratory probe followed by 40 seconds of photoactivation. A carver was used to peel apart the strip crown shell in order to remove the crown form. Occlusal adjustment, finishing and polishing of the restorations were all carried out (figure 6). Glass ionomer cement restoration were carried out in relation to 54, 64, 74.

### 3. DISCUSSION

Primary teeth play an important role in speech, mastication, aesthetics, and preserving the space for permanent teeth. Therefore, pediatric dentist should make every effort to preserve the health of these oral components up until the time of their exfoliation. The maxillary anterior and posterior teeth suffer from severe damage and early pulp involvement in early childhood caries. When teeth are severely damaged, treating such caries can be difficult for pediatric dentists.<sup>2</sup>

Primary incisors can be restored using a range of aesthetic restorative materials.

GICs, compomers, and composite resins are some of the restorative materials that are used. Materials made of composite resin have excellent physical, aesthetic qualities and marginal integrity.<sup>4</sup> Restorations carried out using composite resin materials are more conservative and don't require further sessions or local anesthetic.

Strip crowns are preformed, transparent crowns available in different sizes. Strip crowns are indicated in teeth with amelogenesis imperfecta, teeth discolored from trauma or congenitally, and incisors with congenital deformity.<sup>5</sup> The method is easy to apply, aesthetically acceptable by the patient and parent, and is simple to restore in the event of any future problems. The supplies (strip crown kit) are inexpensive and the time required for restoration placement is modest. However, it is technique-sensitive, susceptible to fracture from trauma or traumatic occlusion, necessitates adequate tooth structure for retention, is dependent on the patient's cooperation.<sup>4</sup>

Al-Eheideb and Herman (2003) observed 23 composite resin strip crowns for 6 to 27 months and concluded a success rate of 70%.<sup>6</sup> Ram D., evaluated the restorations of strip crown after a 24-months period of follow-up and reported 80% of success rate.<sup>7</sup>

The preferred treatment for this patient involved the preparation of composite resin crowns using strip crowns, which restored function while focusing primarily on aesthetics and resulted in the pleasure and satisfaction of the patient and parent.

#### 4. CONCLUSION

The most aesthetically attractive restoration available to doctors for the treatment of severely decayed primary incisors is the bonded resin composite strip crown. It was easy to do and immediately benefitted the child. Additionally notable was the level of parental satisfaction with composite restoration for deciduous incisors with large or multiple-surface cavities.

#### REFERENCES

1. American Academy on Pediatric Dentistry, American Academy of Pediatrics: Policy on Early Childhood Caries (ECC): Classifications, Consequences, and Preventive Strategies. *Pediatr Dent* 2008-2009; 30: 40–43.
2. Muhamad AH, Azzaldeen A, Mai A. Strip crowns technique for restoration of

- primary anterior teeth: case report. *J. Med. Dent. Sci.* 2015; 14(12):48-53.
3. Gupta A, Naik. N, Pallavi, Deepshikha, Kumar S. Strip crowns technique for aesthetic rehabilitation of primary anterior teeth: case report. *Int. j. res. appl. sci. eng. technol.* 2022; 10(5):3971-3974.
4. Radu, F.I., León, A.R., Luca, R., & Davila, C. Clinical performance of strip crowns in restoring primary incisors: preliminary study. *Proc. Rom. Acad.* 2015; 1(B):190-193.
5. Dogan, Mehmet. Composite resin strip crowns used for rehabilitation of maxillary central incisor : two cases report. *J Dent Oral Health.* 2016; 2(1):1-4.
6. Al-Eheideb, A. A., & Herman, N. G. Outcomes of dental procedures performed on children under general anesthesia. *J Clin Pediatr Dent* 2003; 27(2), 181-183.
7. Ram D, Fuks AB. Clinical performance of resin-bonded composite strip crowns in primary incisors: a retrospective study. *Int J Paediatr Dent.* 2006; 16(1):49-54.

**How to cite this article:** Agarwal A, Rishika Perveen Z, Gupta S, Yeluri R. Aesthetic restoration of mutilated deciduous anterior teeth with strip crowns: A case report. *TMUJDent* 2022;9(4):17-21.