Interim Esthetic Restorations for Carious Anterior Teeth: A Pilot Study

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INTRODUCTION

- For children with early childhood caries, traditional restorative procedures for maxillary primary incisors are technique sensitive.
- Due to identified barriers, the ability to treat these patients under sedation or general anesthesia (due to cooperation and/or extent of treatment) is limited.
- Interim, non-invasive approaches such as silver diamine fluoride are currently utilized but can pose esthetic concerns- especially in the anterior region.

OBJECTIVES

To determine if resin-modified glass ionomer strip crowns are:

- effective for interim caries management in young children with early childhood caries (ex: restoration marginal integrity, absence of pathology).
- accepted by parents as an esthetic, interim therapeutic restoration.

MATERIALS AND METHODS

- A clinical pilot study is being conducted at the University of Florida-NCEF Pediatric Dental Center.
- Healthy children ages 3-5 years old with supragingival, multi-surface lesions present on maxillary primary incisors are being recruited. 1-2 carious maxillary incisors per patient were treated for the purpose of this research study.
- Carious teeth were treated with resin-modified glass ionomer strip crowns in an atraumatic manner (no local anesthesia and no tooth preparation).
- Parental esthetic acceptance and effectiveness of the restorative technique was measured at each follow up visit (3 months, 6 months, 12 months).

RESULTS

Figure 1. Pre-operative and immediate post-operative clinical photos of #G treated with an RMGI strip crown.

Figure 2. Pre-operative and immediate post-operative clinical photos of #E and #F treated with an RMGI strip crown.

- Currently, there are 6 patients (10 teeth total) enrolled in the study.
- Data collection and analysis is ongoing with the intent of enrolling upwards of 20 patients.
- From current data, 100% parental satisfaction was reported following immediate treatment.

a)

b)

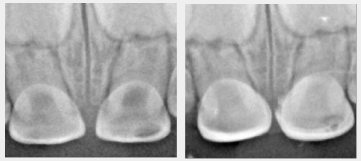

Figure 3. a) Clinical photos of #E and #F at pre-op, immediate post-op, and at the 6 month follow up. b) Radiographic images show the treated teeth at pre-op and at the 6 month follow up.

CONCLUSION

- Based on limited follow up information currently available (up to 6 month follow up), there have been no adverse effects noted clinically or radiographically.
- With an increased sample size, it is anticipated that findings will support the hypothesis that resin-modified glass ionomer strip crowns are acceptable interim therapeutic restorations for caries management and esthetics.