



Introduction

Early Childhood Caries (ECC) continues to remain the most prevalent disease in early childhood. This continues to be the trend despite different efforts in pediatric dentistry to create awareness in prevention in the last decades. According to Ahmed, et. al., the prevalence of ECC has increased since the year 1988 and affects patients in low socioeconomic status in a greater way than those with a higher status. Patients with highest incidence rate for caries need more treatment done and are often referred to receive treatment in the operating room under general anesthesia due to the extent of treatment required and the limited cooperation that patients under 5 years present in the dental setting.

The objective of this study is to show patient compliance on attendance to periodic oral evaluations after receiving treatment in the operating room under general anesthesia. The secondary objective is to evaluate caries and dental needs at subsequents visits to determine whether oral hygiene improved after treatment in the OR under GA at two sites namely Ricardo Salinas Dental Clinic and COHCR Grad Pediatric Dentistry clinic.

Materials and Methods

- Retrospective and chart review study of electronic records from the UT Health San Antonio School of Dentistry patient database (Axium) at COHCR Grad Pediatric Dentistry Clinic and Ricardo Salinas Dental Clinic to identify dental charts of patients under 5 years of age referred to OR/GA for dental rehabilitation.
- Inclusion criteria was treatment in the OR under GA between January 2021 to January 2024. Followed up on recall visits and evaluated oral health.
- Patient list generated for CDT codes OR Code D9420 from patients ages <5 years old seen between January 2021 to January 2024
- Further screening for subsequent visits for exam or treatment using Recall code D0120, D0145, Restorative codes for Amalgams (D2140, D2150, D2160), Stainless Steel Crowns (D2930, D2934, D2929), Resins (D2330, D2331, D2332, D2335, D2391, D2392, D2393, D2394), Extractions (D7140), and Nitrous Oxide (D9230).
- From the patient pool gathered, a manual search was performed for each patient to determine recall attendance, how many visits, presence of caries, and subsequent treatment needed.
- Proportion was summarized and 95% confidence interval was calculated. The patients age, gender, and treatment times were collected and summarized by proportions, mean, standard deviations.
- Logistic regression used to explore the effects of gender and age on the risk of needed procedure.
- The time-to-procedure post operation was estimated using a Kaplan-Meier incidence curve.
- Follow-up time was the date of the first needed procedure minus the date of initial operation. Those without needing a procedure were treated as censored on the date of data collection. All p-values were tested at 2-sided alpha of .05. Statistical analysis was performed in R (v4.3, Vienna, Austria).

Results

- The analysis in Figure 1 indicates that there was no significant association between Gender and Age (years) in the odds of patients requiring dental procedure in the months/years following their dental procedure under General anesthesia. .
- In Figure 2, we can observe that the proportion of patients that needed a second treatment due to new caries arising after treatment in the OR under GA was of 56.25% and there was a 95% CI [39.06, 73.44] (18/32).
- The analysis on Figure 3, demonstrates that the median time-to-procedure from when the patient was treated in the OR under GA to the time of their second treatment in office post-OR is 39.9 months, as shown in the Kaplan-Meier Incidence curve of Follow-up time
- Figure 4, we can compare observe all of our variables and observe that the follow up days until they needed their second treatment was 751 +- 415 [125, 1,443]

Characteristic	OR [†]	95% CI [†]	p-value
Gender			
Female	—	—	
Male	1.62	0.36, 8.02	0.5
Age	1.48	0.76, 3.18	0.3
[†] OR = Odds Ratio, CI = Confidence Interval			

Figure 1

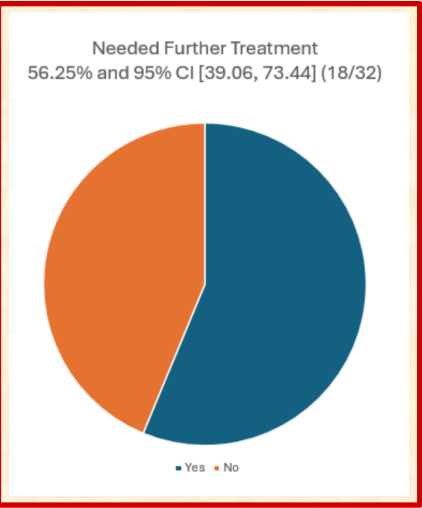


Figure 2

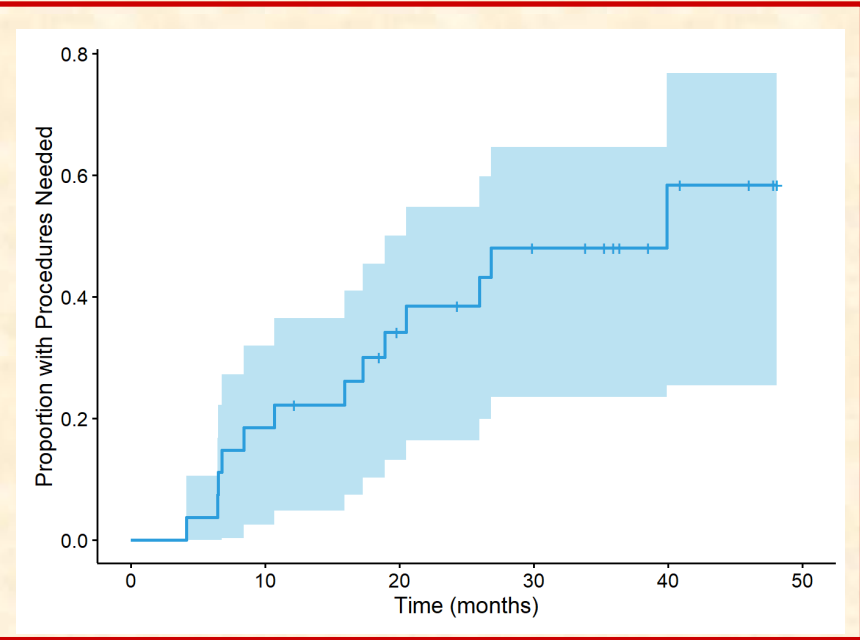


Figure 3

Characteristic	N = 32 [†]
Age	6.94 ± 1.13, [5.00, 9.00]
Gender	
Female	15 (47%)
Male	17 (53%)
Race (X)	
Hispanic	22 (96%)
White	1 (4.3%)
Unknown	9
Returned for recall appointment after treatment in OR under GA	31 (97%)
Need further treatment	18 (56%)
Second treatment in office	
NO	5 (16%)
Not Applicable	14 (44%)
YES	13 (41%)
Follow-Up days	751 ± 415, [125, 1,443]
Unknown	5
[†] Mean ± SD, [Range]; n (%)	

Figure 4

Discussion

- The data found through this research rejects the hypothesis that parents of patients who received FMDR in the OR under GA would have improved their oral hygiene and dental practices.
- Limitations on research based on the fact that subjects of the study may not reflect the general population since the study was based on charts from our Pediatric Dental Clinic
- Unable to determine whether there is a factor linked to race/ethnicity due to lack of diversity in the study as in concentrated mostly on hispanic population from our dental clinics.
- Socioeconomic status may have also played a role since a significant percentage of the population treated in out pediatric dental clinics has a lower socio-economic status.

Conclusion

Recall attendance in the times following the FMDR under GA was high after extensive dental treatment under GA, parents are more likely to improve attendance to periodic dental examinations. However, there was a high percentage of children who presented with caries at their next visits and needed further treatment.

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References:

