

Evaluation of Silver Diamine Fluoride Application prior to General Anesthesia



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BACKGROUND

- 38% silver diamine fluoride (SDF) is a commonly used caries-arresting medicament
- Substantial research has demonstrated the efficacy of 38% SDF at arresting caries.
- Various factors such as extensive dental treatment needs, medical complexity, and lack of patient cooperation cause some patients with early childhood caries (ECC) to receive comprehensive dental treatment under general anesthesia (GA).
- Hospital wait times can accrue to several months before patients can receive treatment.

PURPOSE

- Evaluate the difference in clinical outcomes for teeth that had 38% SDF applied as an interim treatment prior to comprehensive dental treatment under GA compared to teeth that did not receive an application of SDF prior to GA in patients with ECC.

METHODS

- Chart reviews completed of children younger than 6 years old who received comprehensive dental treatment completed at Denver Health Medical Center from July 2021 through June 2024.
- 978 patients were identified to meet the criteria, 297 of which received SDF application prior to comprehensive dental treatment under GA.
- Clinical outcomes of the SDF and non-SDF groups were evaluated based on whether carious dentition was able to be restored or required extraction.
- Integer count data with evidence of overdispersion motivated the use of Negative Binomial Regression for statistical analyses.

RESULTS

- There was no statistically significant difference between groups when evaluating number of combined restorations and extractions ($p = 0.7266$). **Fig 1**
- Patients treated with SDF had significantly fewer extractions, with an incidence rate ratio (IRR) of 0.711 indicating approximately a 29% reduction compared to untreated patients ($p = 0.0043$). **Fig 2**
- Patients treated with SDF had significantly fewer extractions of untreated teeth (without SDF application) with an incidence rate ratio (IRR) of 0.312 indicating approximately a 69% reduction compared to patients not treated with SDF. **Fig 3**

Fig 1

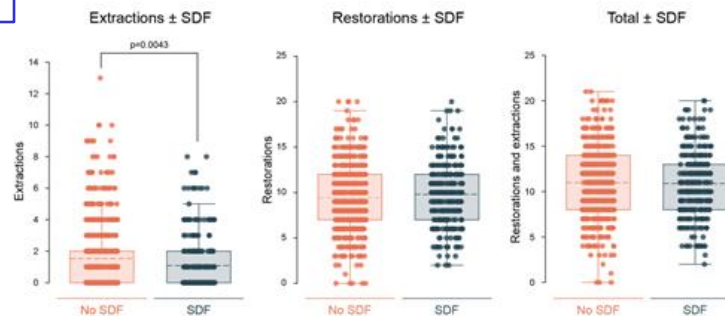


Fig 2

Non-SDF-treated Teeth Extracted

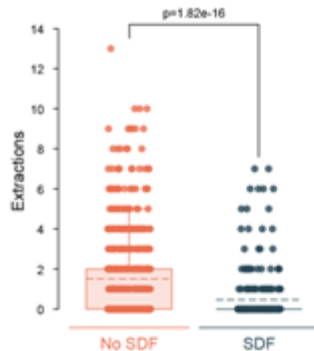
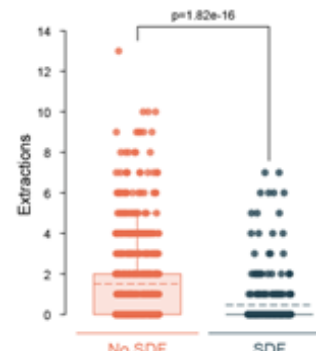


Fig 3

Non-SDF-treated Teeth Extracted



CONCLUSIONS

- SDF treatment to carious teeth prior to comprehensive dental treatment under GA is associated with a significant reduction in the number of dental extractions required.
- There was no statistically significant effect observed on the number of extractions or the combined count of restorations and extractions.

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(Additional references can be found on research abstract)

ACKNOWLEDGEMENTS

- Acknowledgement to Dr. Jennie Marinucci-Vinyard and Dr. Michael Vinyard for completion of data analysis.