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## INTRODUCTION

- "The purpose of pulpal therapy in primary dentition is to alleviate pulpal infection, relieve associated symptoms, and, ultimately, preserve the tooth [in regard to growth and development]" (Kratunova, 2018)
- Among the large variety of materials and techniques indicated for pulpotomy of primary teeth, Formocresol is no longer the most commonly taught pulp medicament according to a 2009 study, with Ferric Sulfate as its replacement (Ni Chaollai).
- Formocresol MOA- Devitalization; however, cytotoxic with carcinogenic and mutagenic potential.
- Ferric Sulfate MOA- coagulant and hemostasis by forming a ferric ion-protein clot on the pulp surface

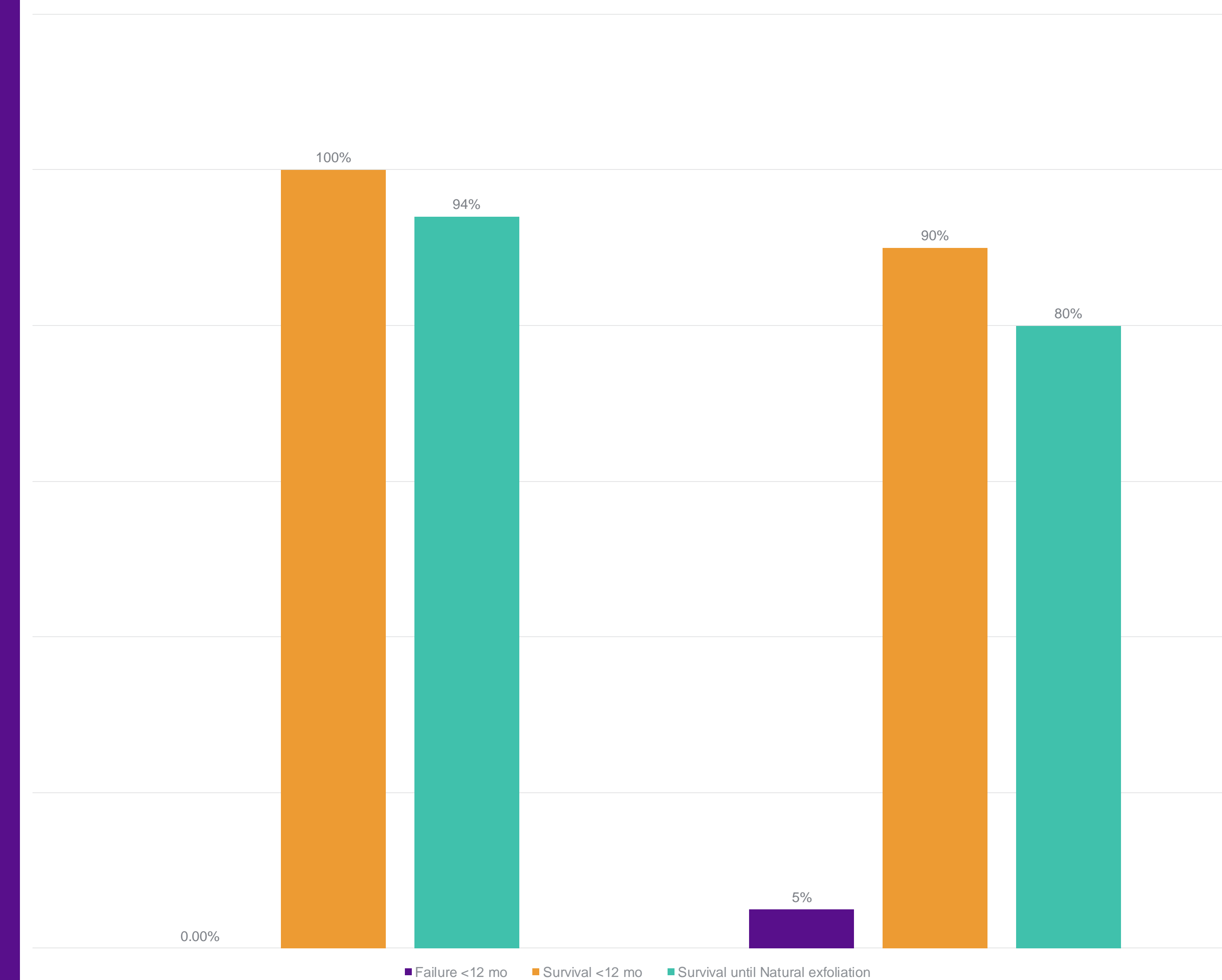
## PURPOSE

- Numerous studies have been completed regarding the "Gold Standard" medicament of Formocresol.
- As advancements in dental materials continues, how do other medicaments such as Ferric Sulfate stand in comparison to the gold standard?

## METHOD

- Between 1/1/2011 to 8/30/2021, vital teeth treated with pulpotomies were reviewed, taking special consideration in regard to the type of medicament used, whether the procedure failed (extraction <12 months post-op), tooth was extracted >12 months post-op, or if the tooth survived until natural exfoliation.

Survival Rate of Pulpotomy Treated Primary Teeth



## RESULTS

- Of the 139 primary teeth treated with therapeutic pulpotomies selected for this research, 35 completed with Formocresol had a 100% survival rate of 12 months, and 94% survival to natural exfoliation.
- Of the 104 primary teeth treated with therapeutic pulpotomies completed with Ferric Sulfate, 90% of primary teeth had a survived to 12 months, 80% survival to natural exfoliation, and 5% failed (extraction prior to 12 months post-op).

## CONCLUSIONS

- In conclusion, Ferric Sulfate is a viable treatment option for therapeutic pulpotomies on primary dentition as long as the practitioner adequately informs the patients of risks and benefits which includes the risk of failure and/or extraction of the primary tooth prior to natural exfoliation.
- It is important to note that primary teeth treated with therapeutic pulpotomies that have not yet reached natural exfoliation were excluded from these results; however, they may drastically increase the survival percentage for teeth treated with Ferric Sulfate.
- Additional research can be done similar to Asgary in 2014 using systemic reviews and randomized controlled trials to compare the success rate of pulpotomies completed using ferric sulfate to MTA, as the use of MTA has been widely growing in the field of pediatric dentistry.

## REFERENCES

- Kratunova E, Silva D. Pulp therapy for primary and immature permanent teeth: an overview. *Gen Dent*. 2018 Nov-Dec;66(6):30-38. PMID: 30444704.
- Stringhini Junior, E., Vitcel, M.E.B. & Oliveira, L.B. Evidence of pulpotomy in primary teeth comparing MTA, calcium hydroxide, ferric sulphate, and electrosurgery with formocresol. *Eur Arch Paediatr Dent* 16, 303–312 (2015). <https://doi.org.ezproxy.med.nyu.edu/10.1007/s40368-015-0174-z>
- And many others