

Background

Dental caries are the most common cause of premature tooth loss in primary dentition. This can lead to:

- Changes in eruption sequence
- Ectopic eruption
- Space loss
- Functional and speech impairment

The most promising space maintainers are successfully disinfected and restored primary teeth. Obstacles in endodontic therapy for primary teeth include:

- Proximity of the developing permanent tooth bud
- Difficulty in obtaining a perfect seal
- Presence of accessory canals

Lesion sterilization and tissue repair (LSTR) is a procedure for necrotic primary teeth that requires no instrumentation or filling of the root canals. Instead, it involves placement of an antibiotic mixture in the pulp chamber to disinfect the root canals. LSTR can decrease the bacterial load and if successful, tissue repair can be anticipated, and the tooth can be retained.

Case Report

5 year old male presents with furcation radiolucency on tooth #T. The tooth was treated with LSTR and monitored. At 12 months post-operatively, the patient is asymptomatic with no signs of infection noted.



Methods

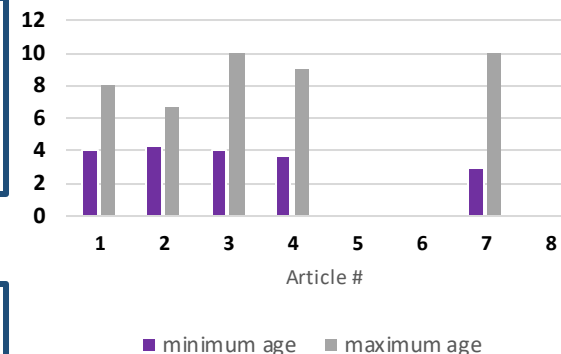
Databases were searched between the years 2020-2022 for randomized controlled trials, cohorts, and case summaries. Eight articles were selected to review and the success rate of pulpectomy treatment and LSTR were compared.

Results/Discussion

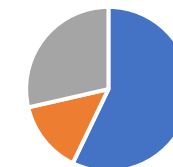
The graphs compare various criteria amongst the eight articles. The difference shown between LSTR and pulpectomy success rates was not statistically significant amongst different studies. Out of the eight studies, five concluded that both techniques presented no significant difference in success rates for nonvital pulp therapy in necrotic primary molars. However, more studies need to be on this topic comparing the two methods for treating necrotic primary teeth to be able to draw more precise comparisons.

Article #	Medications used for the antibiotic paste in LSTR
1	Ciprofloxacin, Ornidazole, Cefixime
2	Chloramphenicol, tetracycline, ZOE
3	Ciprofloxacin, metronidazole, dindamycin
4	Ciprofloxacin, metronidazole, minocycline
5	Ciprofloxacin, metronidazole, minocycline
6	Ciprofloxacin, metronidazole, minocycline
7	Chloramphenicol, Tetracycline, ZOE
8	Ciprofloxacin, metronidazole, minocycline

Age Range of Study Population



LSTR vs Pulpectomy Success



- Same success rate
- LSTR is superior for teeth with root resorption
- Pulpectomy is superior for teeth with no root resorption

Sample Size



Follow Up Timeline in Study



- 3 months
- 12 months
- 18 months

References

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5. Coll JA, Dhar V, Vargas K, et al. Use of Non-Vital Pulp Therapies in Primary Teeth. *Pediatr Dent* 2020;42(5):337-49.
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