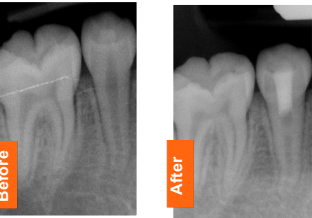


DETERMINANTS OF SUCCESS IN REGENERATIVE ENDODONTIC PROCEDURES IN PEDIATRIC PATIENTS

Sharma S, Ritwik P, Fawad L, Diogenes A, Olson G, Holland N, Schiavo J, Myrick M

PURPOSE

To systematically investigate the outcomes of regenerative endodontic procedures (REP) in children from published case reports and case series.
To establish descriptive characteristics of population undergoing REP.



WHY REP?

IMMATURE NECROTIC PERMANENT TOOTH

- > Traditional Approach: Apexification
- > Guarded Lifetime Prognosis & Retention Of Tooth
- > Arrested Root Length, Radicular Dentin Thickness, Apical Closure
- > Alternative Alternative Approach: REP: Paucity Of Data, Lack Of Standardization
- > Unfavorable Crown: Root

RESULTS

PRE OP FINDINGS



GENDER

Male: 54.31%
Female: 45.17%



TEETH

Incisors: 50.76%
Premolars: 36.04%
Molars: 4.06%



AGE

Mean: 11.49 years
+/- 5.29 years



ETIOLOGY

Trauma: 48.22%
Anomaly: 13.70%
Caries: 11.17%

TREATMENT VARIABLES

DISINFECTANT

Triple antibiotic paste: 52.79%
Calcium hydroxide: 24.36%
Bi paste: 13.70%

	N	Y
BI	0.061	0.087
CaOH	0.061	0.070
TRI	0.139	0.426

P= 0.23

Relevance: Choice of disinfectant did not significantly improve tooth maturity

IRRIGANT

NaOCl + 0.12% CHX: 68.53%
NaOCl + 2% CHX: 25.89%

	I	U
	2.7	3

P= 0.1

Relevance: NaOCl. Conc did not significantly improve tooth maturity

SCAFFOLD

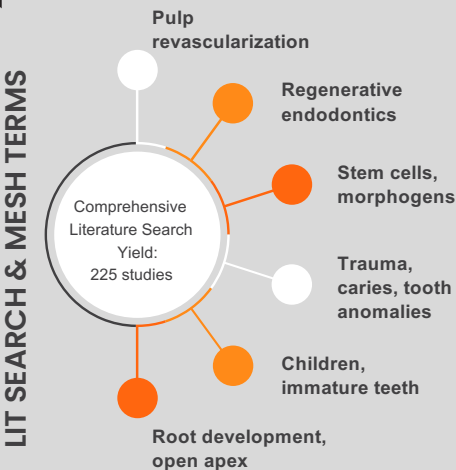
Blood: 57.86%
PRP/PRF: 21.32%

	N	Y
B	0.252	0.461
PRF	0.009	0.096
PRP	0.026	0.096

P= 0.19

Relevance: Choice of scaffold did not significantly improve tooth maturity

RESEARCH METHODOLOGY



INCLUSION CRITERIA

Studies years:
2000-2020

Age:
<16 years old

Case reports/Case series

Etiology:
Caries/trauma/anomalies

Immature permanent teeth
with necrosis



Total # teeth:
197

Total # of cases & case reports:
43

DATA EXTRACTION TABLE

Patient Demographics	Tooth Type
Pulp Status	Etiology
Treatment Modality	Follow-up Period
Clinical Outcomes	Radiographic Outcomes
Complications	

Improvement in tooth maturity with intervention N= 159/197 (80.71%)

DENTIN
THICKNESS

N= 82 (71.3%) P<0.0001

ROOT
LENGTH

N= 114 (57.86%) P< 0.0001

APICAL
DIAMETER

N = 139 (70.56%) P< 0.0001

CONCLUSION

- > An overwhelming proportion of 80.71% of the reported cases showed improvement in tooth maturity with REP.
- > **Treatment variables:** Type of disinfectant used, concentration of sodium hypochlorite used, and type of scaffold used were not statistically significant variables between treated teeth that showed improvement in root maturity vs those that remained unchanged.
- > **Improvement in tooth maturity was attributable to improvement in three facets:** Radicular dentin thickness, Root length, & Apical diameter.
- > Incisors and traumatic etiology with mean age range of 11.49 years comprised the largest proportion of cases reports.

REFERENCES

