



Outcome of pulpotomy in permanent teeth affected with pulpitis: A retrospective charts review

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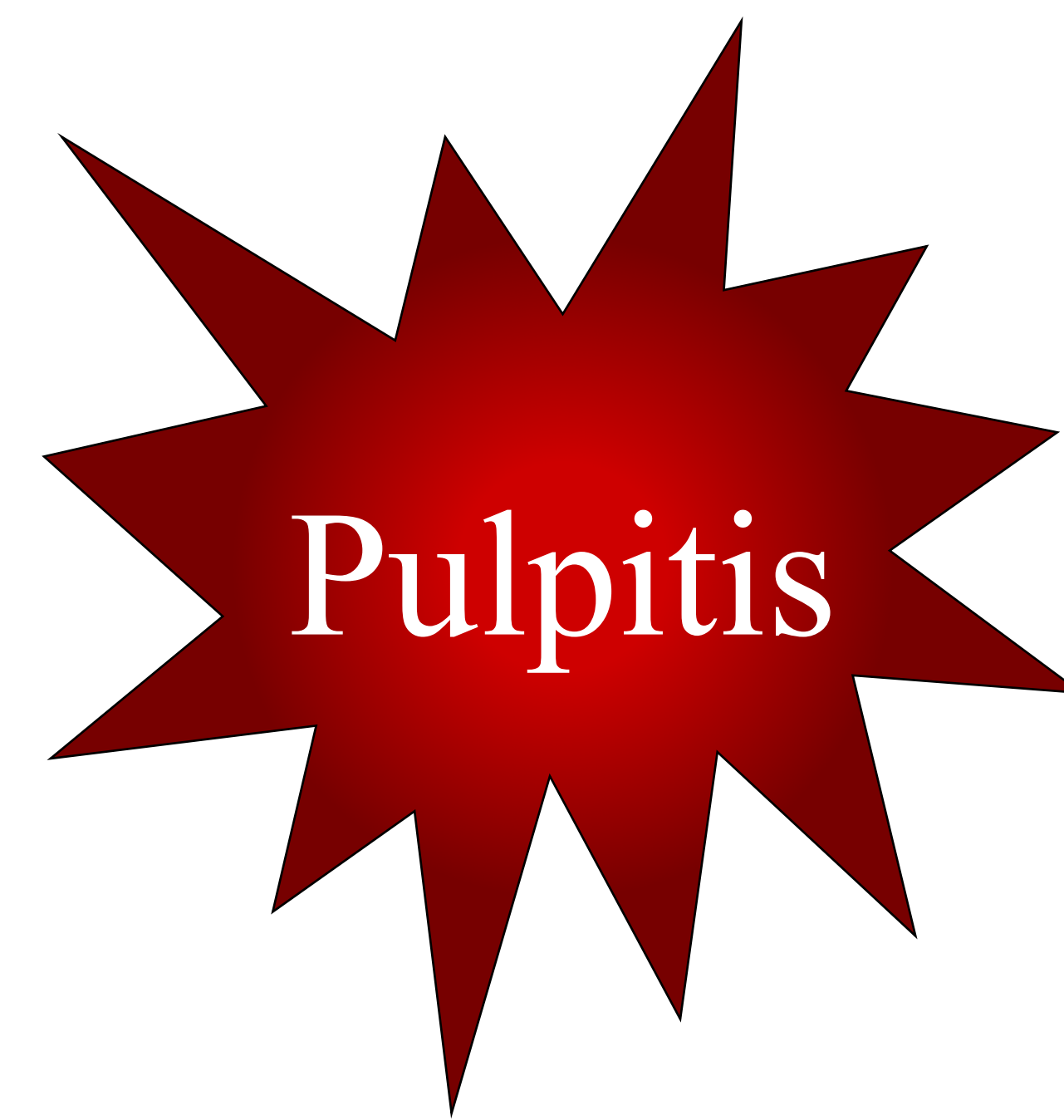


Background

“Pulpitis is inflammation of the dental pulp resulting from untreated caries, trauma, or restorative intervention.”

Root Canal Treatment

- Destructive
- Poorly carried out in general practice
- Needs a coronal restoration
- Expensive



Tooth Extraction

Obvious disadvantage, which the patient may have to tolerate for a lifetime if the tooth is not replaced

Vital pulp therapy (VPT) techniques are means of preserving the vitality and function of the dental pulp after injury resulting from trauma, caries, or restorative procedures.

- ✓ Cost effective
- ✓ Continued root development
- ✓ Efficient
- ✓ Tooth vitality preserved
- ✓ Conservative
- ✓ Maintains proprioception
- ✓ Less technique sensitive

Root Canal Treatment

Permanent

Vital pulp therapy

Primary

Acta Odontologica Scandinavica, 2013; 71: 130–136

ORIGINAL ARTICLE

Treatment outcomes of pulpotomy in permanent molars with irreversible pulpitis using biomaterials: A multi-center randomized controlled trial

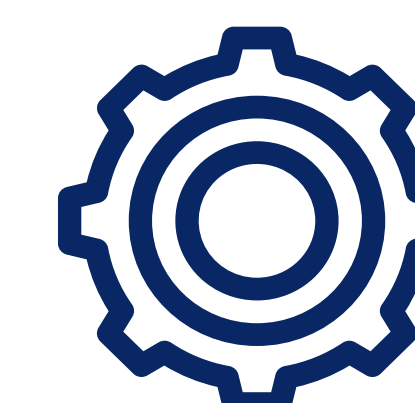
SAEED ASGARY¹ & MOHAMMAD JAFAR EGHBAL²

Conclusion: MTA at 12-month follow-up were 98% and 97% CEM. There was no significant differences in clinical and radiographic success rates.

Aim

To assess clinical outcomes of MTA pulpotomy in permanent teeth presented with pulpitis.

To determine the association of patient's age, gender, preoperative diagnosis and tooth type on the outcome of pulpotomy.



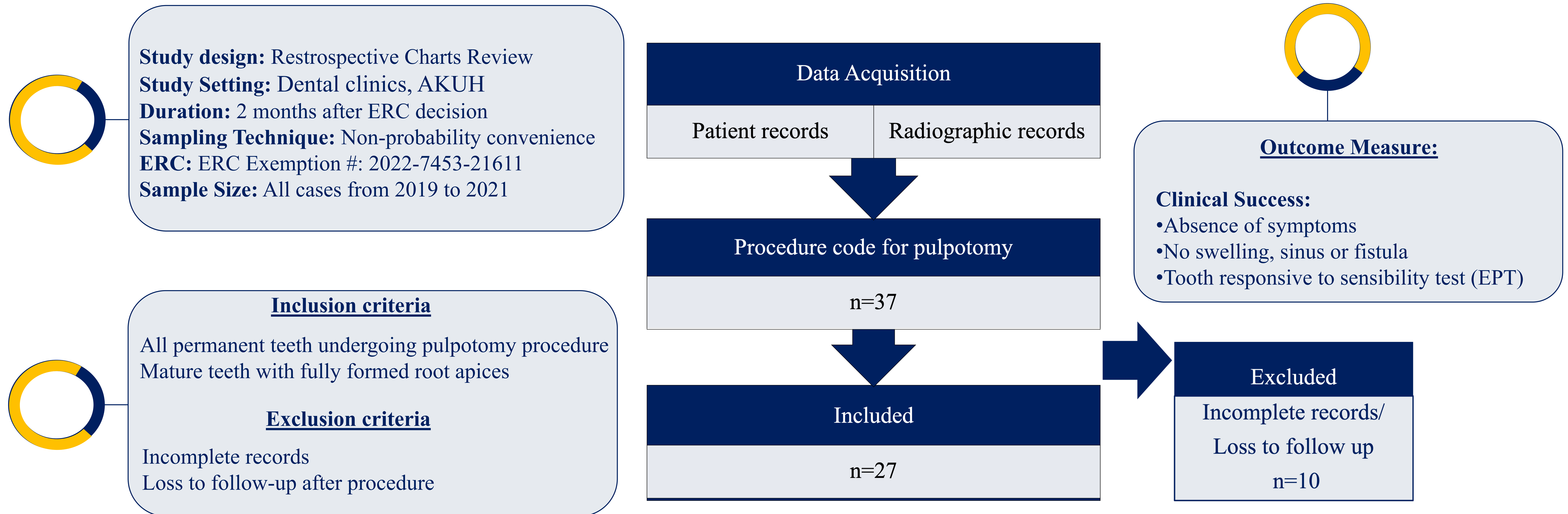
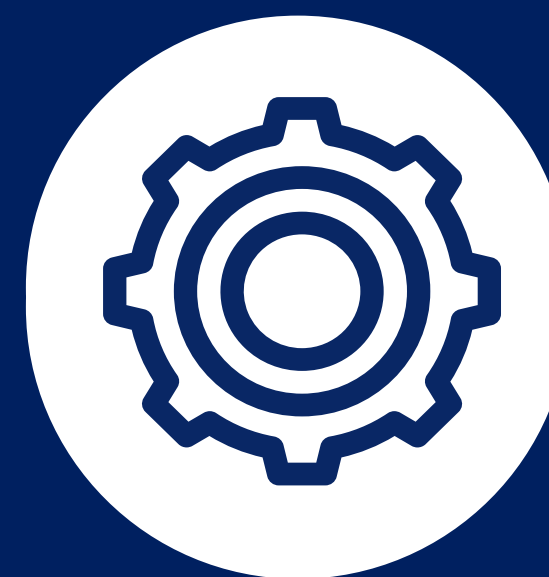


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Poster ID: P-10

Materials and Methods





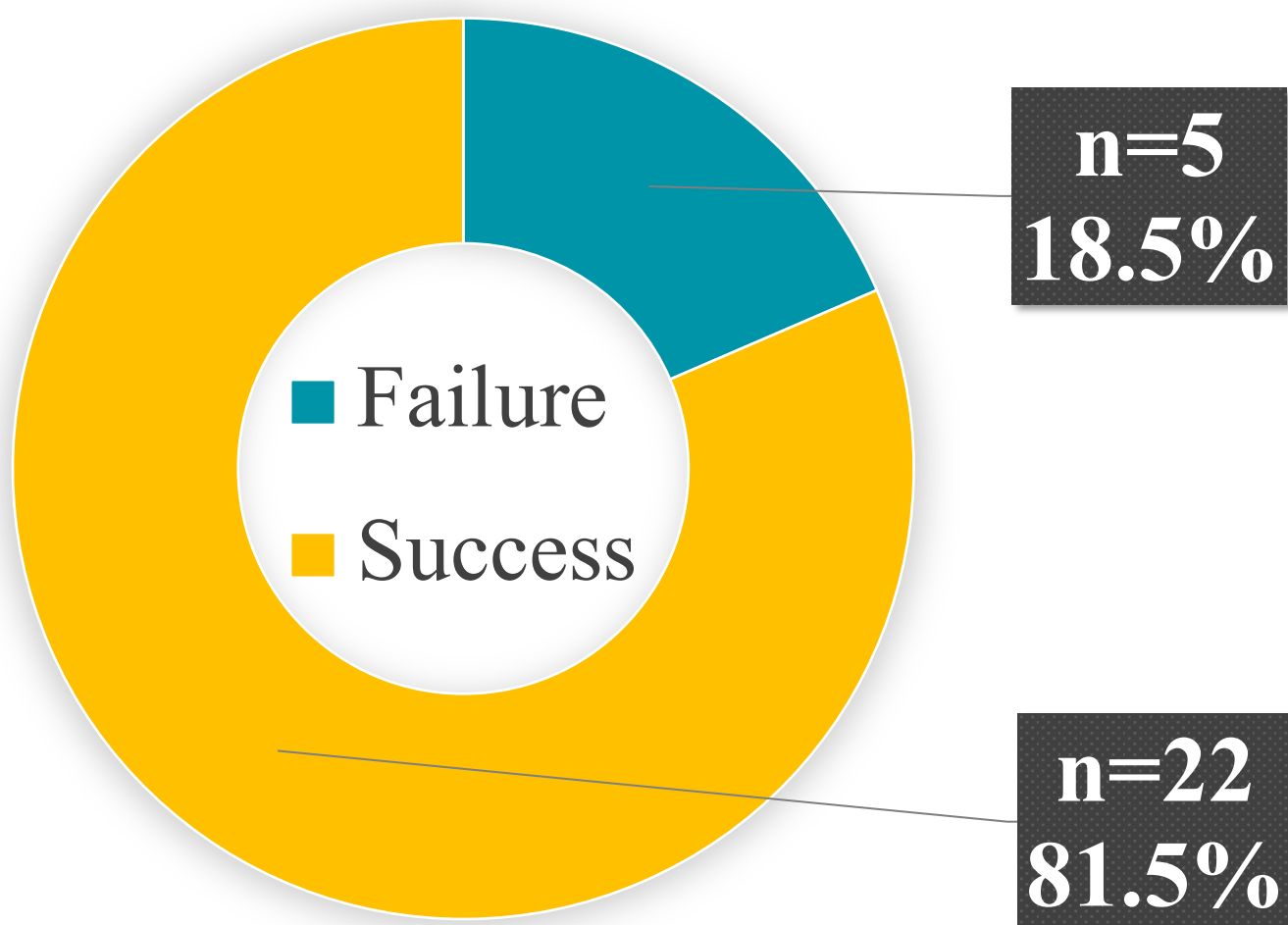
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Results

Category		Frequency(n)	Percentage(%)
Oral hygiene	Satisfactory	8	29.6
	Unsatisfactory	19	70.4
Gender	Male	13	48
	Female	14	52
Arch	Maxillary	14	51.9
	Mandibular	13	48.1
Tooth Type	Anterior	2	7.4
	Pre-molars	5	18.5
	Molars	20	74.1
Baseline at presentation	Carious	24	88.9
	Trauma	2	7.4
	Previously Filled	1	3.7



Category		Success(n)	Failure(n)	p-value
Tooth Type	Anterior	1	1	0.51
	Premolar	4	1	
	Molar	17	3	
Baseline at Presentation	Caries	20	4	0.48
	Trauma	1	1	
	Previously filled	1	0	

Fisher’s Exact test ; p -value ≤ 0.05 is significant

	Age (years)	Follow-up (Days)
Mean	34.15	141.52
Median	35.00	72.00
Std. Deviation	14.25	158.07
Minimum	10	7
Maximum	66	511

Category		Outcome		OR	95% Confidence Interval	
		Success(n)	Failure(n)		Lower	Upper
Preoperative pulpal status	Reversible	17	4	0.85	0.08	9.44
	Irreversible	5	1			
Preoperative peri-apical Status	Normal	19	4	1.58	0.13	19.42
	Pathologic	3	1			
Arch	Maxillary	12	2	1.80	0.25	12.99
	Mandibular	10	3			
Gender	Male	10	3	0.56	0.08	4.01
	Female	12	2			
Oral hygiene status	Satisfactory	6	2	0.56	0.08	4.24
	Unsatisfactory	16	3			

Odds Ratio with 95% CI

Failed cases:

- Two teeth were non vital on sensibility testing at follow-up
- Three patients reported with aggravated symptoms (lingering sharp pain and tender to percussion)
- All of these teeth were treated with **Root Canal Treatment**





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Discussion

Author Year	Study Design	Sample size	Tooth Type (n)	Pre-operative pulpal Status (n)	Pre-operative Periapical Status(n)	Mean Age (years)	Material	Type of Pulpotomy	Outcome Assessment	Success (%)	Mean Follow- up (months)
Asgary <i>et al.</i> 2013	Multi-center RCT	413	Mature 413	Irreversible Pulpitis 413	Not Mentioned	27 ± 8	MTA CEM	Complete	Clinical and radiographic	98-MTA 97-CEM	12
Qudeimat <i>et al.</i> 2015	Randomized controlled trial	23	Immature 10 Mature 13	Irreversible Pulpitis 23	Normal 4 Pathologic 19	10.7 ± 1.7	MTA	Partial	Histologic	100	57.5
Pairoj <i>et al.</i> 2017	Retrospective study	55	Mature 45 Immature 10	Reversible Pulpitis 30 Irreversible Pulpitis 25	Normal 34 Pathologic 21	29	MTA	Complete	Clinical and radiographic	84- IP 76-AP	36
Archana <i>et al.</i> 2022	Retrospective study	96	Mature 96	Irreversible Pulpitis 96	Not Mentioned	25.9 ±6 4.6	MTA	Complete	Pulp sensibility	94.7	12
AKUH 2022	Retrospective study	27	Mature 27	Reversible Pulpitis 21 Irreversible Pulpitis 6	Normal 23 Pathologic 4	34.15 ± 14.25	MTA	Partial 3 Complete 24	Pulp sensibility	81.5	4

Strengths:

- This is the first study to include both types of pulpitis (reversible and irreversible) in permanent mature teeth
- This data will serve as a reference data for long term follow-up in clinical studies
- Standardized protocol was followed

Limitations:

- Single center study
- Only one material was used
- Shorter follow-up time

Conclusion

In a mean follow-up of 4 months, MTA pulpotomy showed a clinical success of 81.5% in permanent teeth presented with pulpitis

