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Management Outcomes of Leong's Premolars – A Clinical Audit

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PURPOSE

Dens Evaginatus in permanent premolars, also called Leong's Premolars (LPs), are a common dental anomaly in the Mongoloid population. This clinical audit assessed management outcomes of LPs at a tertiary dental centre.

METHODS

Dental records of patients aged 8-16 years seen from 2017-2019, with the codes "Dens Evaginatus", "Revascularisation/ apexification" or "Root canal treatment" were retrieved from the database at the National Dental Centre Singapore. Cases of dens evaginatus or pulp therapy of teeth other than premolars were excluded. Data on symptoms, management and outcomes were collected.

RESULTS

39 individuals (94.9% Chinese) with mean age 11.6 years at detection, presented with 109 LPs. 78 (71.6%) of LPs were asymptomatic. 26 of these received no treatment; 3 remained asymptomatic while 23 failed to follow up. 40/78 asymptomatic LPs underwent preventive tubercle reinforcement; 77.5% remained asymptomatic and 22.5% failed to follow up.

Adverse symptoms (pain, abscess, facial cellulitis) were reported in 28.4% of LPs. 77.4% of symptomatic LPs were successfully treated (with root canal treatment or regenerative endodontics) while 22.6% failed to follow up after treatment had commenced.

7 LPs required treatment following failure of the first treatment, including 3 which had undergone regenerative endodontics. Mean number of visits for regenerative endodontics was 4.4.

Variable	N
Gender	
Male	10
Female	29
Race	
Chinese	37
Malay	2
Mean age at presentation	11.6
Number of LP per child	
1	11
>1	28

Table 1: Demographics and distribution of Leong's Premolars within sample

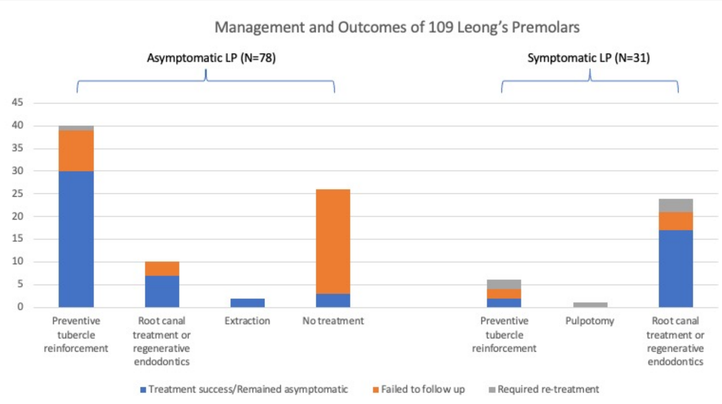

Figure 1: Management and outcomes of 109 Leong's Premolars

DISCUSSION

In this clinical audit, a high rate of follow-up failure was seen in cases of LPs, particularly amongst the asymptomatic LPs. Considering the risk of tubercle fracture and possible pulpal exposure that may ensue, this failure to follow up is a concerning trend. Greater awareness of possible negative outcomes of no treatment of LPs is required.

A large majority of asymptomatic LPs were treated with preventive tubercle reinforcement, despite some evidence that prophylactic tubercle removal and restoration may be a more successful management option[1,2].

A number of immature LPs treated with regenerative endodontic treatments experienced treatment failure, requiring retreatment. Regenerative endodontics should therefore not be considered a fool-proof safety net for immature LPs which were identified and managed late.

CONCLUSIONS

- **The audit highlighted inadequate follow-up of LPs which may contribute to under-reporting of their negative management outcomes.**
- **Regenerative endodontics of LPs should not be considered fool-proof.**
- **Early identification and timely preventive procedures should be primary objectives of LP management.**

References

[1] Sim TP. Management of dens evaginatus: evaluation of two prophylactic treatment methods. Endod Dent Traumatol. 1996;12:137-40.
[2] Lerdrungroj K, Banomyong D, Nakornchai S, Ngoenwiwatkul Y, Porkaew P. Outcomes and Predisposing Factors of Two Prophylactic Treatments in Dens Evaginatus Premolars: A Retrospective Study, Journal of Endodontics. 2022.