Decision Making for Retention of Endodontically Treated Posterior Cracked Teeth: A 5-year Follow-up Study

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**Aim**
- To examine the 5-year survival rate of teeth with cracks
- To determine which factors influenced the outcome.

**Materials & Methods**
- 84 patients who received RCT on a posterior cracked tooth were included in this study.
- Teeth were asymptomatic following RCT and restored with either:
  - Full coverage crowns
  - Amalgam cores and protected by orthodontic bands
- Data for analysis were obtained from the patients’ clinical records and review records.
- The follow up period ranged between 0.9 - 127 months.
- A tooth was considered as “survived” if it was present at the time of review.

**Results**
- 92% of the teeth survived and 8% were extracted over the entire follow up period.
- The 5-year survival rate of:
  - **Coronal cracks**: 95.2%
  - **Radicular cracks**: 81.8%
- The 5 years survival rate of teeth with coronal cracks:
  - **Extending into the pulpal floor**: 88%
  - **Not extending to the pulpal floor**: 99%
- All of the following factor **DID NOT** have a significant effect on the survival of cracked teeth:
  1. Age, sex and race of patients
  2. Location and type of tooth (molar or premolar)
  3. Pretreatment signs & symptoms (sinus track, pocketing, tenderness to palpation, or percussion).
  4. Restoration
  5. No. & location of cracks
  6. Pulpal & Periapical diagnosis
- Teeth with extension of the cracks onto the pulpal floor increased the odds of tooth loss by 11-fold.

**Conclusion**
- RCT cracked teeth are functional and may still reasonably survive for 5 years and longer.
- Coronal cracks may be predictably treated, whereas radicular cracks or cracks extending onto the pulpal floor and beyond increased the odds of the tooth being extracted.

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