Bacteria on the Apical Root Surfaces of Untreated Teeth with Periradicular Lesions: A Scanning Electron Microscopy Study

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**Aim**
- To examine the presence of bacteria on the apical root surfaces of untreated teeth associated with chronic periradicular lesions.

**Materials & Methods**
- 29 extracted teeth were used in this study.
  - a- 27 had extensive carious lesions, PAR & attached periradicular lesions after extraction
  - b- 2 extracted unerupted 3rd molars with completely formed roots (control)
- After extraction, the teeth and attached periradicular lesions were fixed, removed with scalpel blades and the apical 5-mm portion of roots was removed & sectioned.
- Root tips were dehydrated, sputter-coated with gold, and then examined for the occurrence of bacteria on the apical root surfaces using SEM.

**Results**
- Bacterial cells were usually observed close to the apical foramen, but restricted to the root canal.
  - These bacteria consisted of cocci and rods.
  - A dense bacterial aggregate composed mainly of rods was observed within the root canal and surrounding the apical foramen of one specimen.
  - Beyond the apical foramen, other bacterial morphological types were recognized, including coaggregations of cocci and filaments, characterizing a fully developed 'corn cob'.

**Conclusion**
- Following SEM evaluation of 27 root tips from untreated teeth associated with periradicular lesions, only one had microorganisms on the root surface.

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