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Antimicrobial evaluation of polytetrafluoroethylene used as part of temporary restorations: An *ex vivo* study

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Michael Solomonov and Dan Henry Levy equal contribution.

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Abstract

The use of polytetrafluoroethylene (PTFE) tape as the base layer of temporary restorations had gained popularity mainly due to the ease of manipulation. The aim of this study was to assess whether this method changes the potential for bacterial growth and leakage of temporary restorations. The direct contact test and live/dead fluorescent staining were used for comparing *Enterococcus faecalis* growth and biofilm formation on PTFE, composite, intermediate restorative material (IRM) and Coltisol F. Confocal laser scanning microscopy was employed to evaluate *E. faecalis* penetration through 2 mm of PTFE, IRM or Coltisol F placed on the bottom of the pulp chamber and into radicular dentinal tubules in extracted maxillary third molars. **The results demonstrated that *E. faecalis* grows on and penetrates through PTFE significantly more than it does with IRM and Coltisol F, revealing its comparably reduced overall antimicrobial sealing ability when placed as the base part of temporary restorations.**

CONFLICT OF INTEREST

The authors disclose no conflicts of interest or external financial support related to this study.

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Citing Literature

References Related Information

Recommended

Temporary zinc oxide–eugenol cement: eugenol quantity in dentin and bond strength of resin composite

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European Journal of Oral Sciences

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