O-4 Distribution of oral pathogens in infections of endodontic origin

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Ⅰ. Objectives

It has been documented that periodontopathic bacteria are also implicated in endodontic infections. However, more information on bacterial distribution in endodontic infections needs to be gathered to support this. The purpose of this study is to access distribution of pathogens in infection of endodontic origin through the use of the 16S-rDNA gene-directed polymerase chain reaction(PCR) in Korean.

Ⅱ. Materials and Methods

16S rDNA gene-directed PCR was to examine the prevalence of periodontopathic bacteria including *Actinobacillus actinomycetemcomitans (Aa), Prevotella intermedia (Pi), Prevotella nigrescens (Pn), Porphyromonas gingivalis (Pg), Porphyromonas endodontalis (Pe), and Treponema denticola (Td)* in the root canals of 36 endodontically infected teeth having apical lesions with or without clinical symptoms like pain, swelling, and fistula.

Ⅲ. Results

1. In 36 infected root canals, most frequently detected bacterial species was *Pg* (61.1%), followed by *Td* (52.8%) and *Pe* (38.9%).
2. Of 36 infected root canals, *Aa* was detected in 6 canals (16.7%) of the teeth, all of which showed clinical symptoms.
3. Of 36 infected root canals, *Pi* and *Pn* were found in 4 (13.9%) and 5 (33.3%), respectively. Notably, prevalence of *Pn* in the symptomatic teeth was 50.0%.
4. At least one of black-pigmented anaerobic bacteria (BPB) including *Pi, Pn, Pe,* and *Pg* was detected in all of the teeth that showed pain or especially swelling but not fistula. It was, however, found that prevalence of BPB in the asymptomatic teeth or the teeth with fistula was only 40%.
5. *Pe* and *Pg* were detected in the teeth regardless of the presence or absence of symptoms.
6. *Td* was also detected in the teeth regardless of the presence or absence of symptoms.

Ⅳ. Conclusions

Taken together, high prevalence of BPB in the symptomatic teeth but low in the asymptomatic teeth suggests that BPB may play an important role in the pathogenesis of periapical lesions.