

Production of MMP-3 of Dental Pulp Culture Induced by *E. faecalis*

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The role of matrix metalloproteinase-3 (MMP-3) in the breakdown of pulp tissue of teeth with severe caries has not yet been directly elucidated. Objectives: to determine the levels of MMP-3 secreted by pulp cell which was infected by *Enterococcus faecalis*. Methods: Human pulp tissue was obtained from three healthy premolars which were extracted from orthodontic patients. The harvested pulp tissue was prepared for culture using physical method. The cells were cultured under standard conditions in alpha-MEM and the culture was infected with 10⁶ CFU/ml of *E. faecalis*. MMP-3 was determined in culture supernatant with enzyme-linked immunosorbent assay. Results: Levels of MMP-3 were significantly higher in infected culture compare to those uninfected dental pulp cell culture (2,34 vs 1.3 ng/ul p<0.01). Conclusion: It has been shown that *E. faecalis* induces production of MMP-3 by dental pulp cell. The data suggests the role of *E. faecalis* in degradation of dental pulp tissue through the production of MMP-3.