

## Comparison of syringe irrigation with RinsEndo on reduction of *Enterococcus faecalis* in experimentally infected root canal (invitro study)

Mousavizahed Sh<sup>1</sup>, Amini K<sup>2</sup>, Zare Jahromi M<sup>2</sup>, Moghaddas O<sup>3</sup>

<sup>1</sup> Post Graduate student Endodontics Dept, Faculty of Dentistry, Islamic Azad University, Khorasgan Branch, Isfahan, Iran.

<sup>2</sup> Assistant Professor, Endodontics Dept, Faculty of Dentistry, Islamic Azad University, Khorasgan Branch, Isfahan, Iran.

<sup>3</sup>Assistant Professor, Periodontics Dept, Dental Branch, Islamic Azad University, Tehran, Iran.

### Abstract

**Background and Aim:** To ensure root canal treatment success, endodontic microbiota should be efficiently reduced. Several irrigation devices have been recently introduced with the main objective of improving root canal disinfection. The purpose of this study was to evaluate the rinsing effect of RinsEndo system in reduction of enterococcus faecalis in comparison with conventional hand syringe in infected root canals.

**Materials and Methods:** In this experimental study, 60 extracted single root and single canal anterior teeth were infected with enterococcus faecalis and divided into 3 groups: RinsEndo system, conventional hand syringe and control group. The enterococcus faecalis colonies were counted in each group before and after rinsing. Data was analyzed with parametric tests such as ANOVA and nonparametric test like Kruskal Wallis.

**Result:** The mean of enterococcus faecalis growth after rinsing was  $3.50 \times 10^3$  in group with conventional syringe rinsing,  $2.04 \times 10^3$  in group with RinsEndo washing and  $6.11 \times 10^3$  in control group. Reduction of enterococcus faecalis after rinsing was statistically significant in each group ( $P < 0.001$ ). The amount of reduction in number of colonies with RinsEndo and conventional syringe rinsing was higher in comparison with control group and this difference was significant ( $P < 0.001$ ). RinsEndo rinsing effect was statistically significantly higher in comparison to conventional syringe as well ( $P < 0.001$ ).

**Conclusion:** Rinsing with RinsEndo system is significantly more efficient in reduction of enterococcus faecalis from root canal in comparison with hand syringe washing.

**Keywords:** Enterococcus faecalis, hand irrigation syringe, RinsEndo system.