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Comparative evaluation of antibacterial efficacy of sodium hypochlorite, endoactivator and laser activated irrigation (LAI) on *enterococcus faecalis* in primary teeth – An *in vitro* study

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One of the most important goals of endodontic therapy is the complete elimination of microorganisms from the root canal system. Failure of root canal treatment is likely caused by the inability to eliminate the bacteria like *Enterococcus faecalis* which is responsible for refractory endodontic infections. Many studies have proven the high antibacterial potential of sodium hypochlorite and it is the most widely used irrigation fluid. The use of lasers in endodontics is an innovative approach for disinfection as it generates expansion and successive implosion of fluids because of a secondary cavitation effect. The aim and objectives of the study were to compare the antibacterial efficacy of sodium hypochlorite, endo activator, diode laser, Nd: YAG laser, Erbium: YAG laser and a combination of Erbium: YAG and Nd: YAG laser on *Enterococcus faecalis* in primary teeth. 48 extracted primary teeth were selected out of which 60 root canals were prepared and randomly divided into 5 groups.The canals were inoculated with an overnight culture of *Enterococcus faecalis* in tryptic soy broth for 24 hours. The baseline of the culture was standardized and then the root canals were treated with the selected technique. Post exposure samples were cultured and the counts were recorded. All groups have shown bacterial reduction. Inter group no statistically significant difference was observed. ($p>0.05$).Nd: YAG has shown the best bacterial reduction. In conclusion, lasers when used along with hypochlorite help us in achieving good reduction of *Enterococcus faecalis* counts. Further *in vivo* studies and studies including larger sample size are recommended.

Biography

Aakanksha has completed her Bachelors of Dental Surgery and Masters of Dental Surgey in Pediatric and Preventive Dentistry from NTR University, Vijaywada, India 2 years back. She has published 3 papers in reputed journals and is a member of the Indian society of pedodontics and preventive dentistry.

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