Editorial

Nanoparticles: a promising tool in endodontics

Sandro Rengo
Editor-in-Chief
Giornale Italiano
di Endodonzia
E-mail address
editor.giornale@endodonzia.it

Effective disinfection of root canal system depends on different variables such as anatomy, proper shaping technique, correct penetration of irrigants and complete removal of pulp tissue and micro-organisms. The chance to obtain a correct canal disinfection strictly contributes to achieve clinical success and still remains a mayor challenging in the modern endodontics. Among different proposed strategies, use of nanoparticles has gained even more interest during the years in terms of root canal detersion. Nanoparticles are characterized by ultrasmall sizes, large surface area/mass ratio and increased chemical reactivity. Moreover, due to antibacterial features their role is promising in the removal of biofilm and microorganisms from the endodontic canal system. Different kind of nanoparticles can be incorporated within irrigant solutions, gels or even sealers to obtain and further maintain canals disinfection. The potential application of zinc oxide nanoparticles and their efficacy against bacteria are presented in the present issue of Giornale Italiano di Endodonzia, evaluating the possible enhancement of classic irrigation obtained by sodium hypochlorite. Further studies are warranted to support the use of nanoparticles in the prevention and treatment of dental infections and to establish the proper delivery systems.

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