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Editorial

Bioceramic sealers: clinical applications and future perspectives

Endodontic is a constantly improved area thanks to the technological progression of rotary instruments and to the development of recent materials that enhance the clinical procedures and increase the success rate over time.

The introduction of new calcium silicate hydraulic materials is changing the application of endodontic sealers. Among others features, such as insolubility biocompatibility, adequate setting-time, antimicrobial activity, dimension stability and adhesion, nanotechnologies have reduced the particles size within these cements allowing a high flow ability. In this view, bioceramic sealers may be drive along the entire root canal length, including the apical foramen, accessory canals, isthmus, voids and irregularities. Indeed, their aim is not only to fill gaps around of the gutta-percha but also to work as excellent obturation materials. They may be also applied in both cold (single cone) and warm (vertical and carriers) obturation techniques.

In the present issue several hydraulic calcium silicate-based sealers have been evaluated confirming their marginal adaptation and evaluating the limited interfacial gaps. Furthermore, different drying protocols of the root canal have been investigated in terms of influence on the bond strength between endodontic sealers and dentinal root thickness. Future studies are needed to confirm the clinical effectiveness and the potential properties of these biomaterials, with a particular attention to retreatability that may represent the main drawback to the clinicians.

In conclusion, it should be stress that, despite the technological development, the endodontic success is biologically-guided and strictly depends on the decontamination of the root canal system that represents the main goal of the therapy. In this scenario the canal obturation plays an important part in the endodontic success providing sealing and, basically, avoiding reinfection.

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