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Editorial

Bioceramics, a turning point

The evolution of materials has provided a significant progress within the endodontic field, improving the traditional techniques and establishing high success rates over time.

Calcium silicate-based materials, also known as bioceramics, are able to react with water through a hydraulic setting reaction to produce a solid mass capable to enlarge with time, be dimensionally stable and provide a perfect sealing. In addition, these materials are demonstrated to be characterized by biocompatibility, bioactivity and antibacterial properties showing unique features, such as mineralized tissue formation, cell proliferation induction and tissue repair. From a clinical point of view, bioceramics have become commonly used materials in the different branches of endodontics, namely vital pulp therapy, repair of perforation, orthograde and retrograde canal obturation and endodontic regeneration.

In this regard, within the present issue, several scientific papers dealing with the different use of calcium silicate hydraulic materials has been published. Specifically, a study had proved the differentiation potential of a newly developed materials for pulp capping and an immunohistochemical analysis had evaluated the effect of two cements in terms of furcation perforation repair. Moreover, bioceramic sealers had been evaluated by two additional papers, in which bond strength and use during a hot modified obturation technique had been studied, respectively.

The advent of such materials has definitely marked a turning point within the endodontic field, not only in terms of technological progress, but also in the clinical application and therapeutic choice. Obviously, future researches are needed with the aim to enhance physical and biological properties, as well as to demonstrate the efficacy during procedures that nowadays are considered innovative and just supported by preliminary results.