Ready-to-use bioceramic materials in apical resorption: A clinical case

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**Introduction:** Bioceramic materials, with their biocompatible type and excellent physic-chemical properties, are frequently used in endodontics. They can be used as cements, root repair materials, root canal sealers and filling materials, which have the advantages of greater biocompatibility, antibacterial properties and sealing capacity. A further advantage of these materials is their ability to form hydroxyapatite and ultimately create a bond between dentin and the material.1

Calcium phosphate silicate cement (CPSC) is a new generation of biological cement first proposed in 2006. It contains phosphate salts in addition to hydraulic calcium silicates. The purpose of its development was the hope that the hydration method would improve the cement’s mechanical properties and biocompatibility. As examples of CPSCs, Endosequence Root Repair Material Putty and Endosequence Root Repair Material Paste (ERRM Paste; Brasseler, Savannah, Ga.) have been industrialized as ready-to-use, premixed bioceramic materials. Their main inorganic components include C3S, C2S and calcium phosphates. The institution of premixed CPSCs eliminates the possibility of heterogeneous consistency during on-site mixing. Because the material is premixed with non-aqueous but water-miscible carriers, it will not set during storage and hardens only on exposure to an aqueous environment.1,2

**Objective:** The aim of this study was to show the ability and facility to use a novel line of bioceramic endodontic materials.

**Method:** A 67-year-old female after orthodontics treatment with a symptomatic right upper central incisor was assessed at a private endodontic clinic. She complained of spontaneous pain. Clinical examination showed a buccal abscess with fistula. The tooth was sensitive to percussion and to palpation. Cold test was negative. Radiographic examination demonstrated an apical resorption. Cone beam CT showed apical resorption in both central incisors, bigger in #8. The root canals were instrumented with Root Zx 2 (J Morita Corp., California) and Endosse-quence Rotary limes 35.04 until 50.04 (Brasseler) using 2.5 percent sodium hypochlorite and EDTA, as well as with the tip 20.01 (Helse Ultrasonic Ocoee, USA). Calcium hydroxide was used as root canal dressing for 14 days and, after remission of symptoms, the apical buffer was performed with the new, ready-to-use Bioceramic BIO-C REPAIR cement (Angelus, Londrina, Brazil), and root canals were filled with the new, ready-to-use BIO-C SEALER (Angelus, Londrina, Brazil) and single gutta-percha cones 50.04 (Tanari Amazonas, Brazil). The cones were then cut with touch heat and condensed.

**Conclusion:** Both products showed the ability and efficiency to be used in repair of resorptions and filling root canals, respectively.

**References**

**About the author**
Ricardo Affonso Bernardes graduated in dentistry from the University of Uberaba in 1990. He graduated in endodontics from Bauru Dental School at the University of Sao Paulo in 1994. He received a master of science in endodontics in 2002 and a PhD in endodontics from the Bauru Dental School at the University of Sao Paulo in 2013. He is a visiting professor and post doctoral at University of British Columbia, Vancouver, 2013. He is teacher and chairman, Endodontics Department, School of Dentistry, Brazilian Association of Dentistry, Brasilia DF.