Endodontic Treatment of a Mandibular Molar with an Infected Root Canal at a High Risk Patient in means of Preoperative Preparation for Cardio Surgery

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CASE STUDY

A 40-year-old female patient, scheduled for cardio surgery, was sent to the School of Dental Medicine, Belgrade University, for a preoperative exclusion of focal lesions in the maxillofacial region. She was treated respecting the protocol for high risk patients.

Tooth 47 showed a necrotic and infected pulp; therefore a root canal treatment was performed in two sessions. The working length was determined using periapical radiography, checked and re-checked during instrumentation with the help of an electronic apex locator. (Fig 1, 2, 3, 4)
CASE STUDY

Considering inability to determine interrelationship between the two mesial canals and to gather a reliable control of three dimensional root canal filling, particularly in the apical region, by conventional radiography, a cone-beam computed tomography (CBCT) was acquired by SCANORA® 3Dx, (SOREDEX, Tuusula, Finland). CBCT scans clearly revealed a compact and homogeneous root canal filling in all three root canals in the axial, sagittal and coronal views, showing surrounding bone of regular density, free of any periapical lesion (Fig. 5-10).

Fig. 5  CBCT scans of the filled distal root canal (coronal and axial projections).

Fig. 6  CBCT scans of the filled mes - ling root canal (coronal and axial projections).

Fig. 7  CBCT scans of the filled mes - ling and mes - bucc root canals and their merging apical region (coronal projection, see arrow).

Fig. 8  CBCT analysis of the apical region with adjacent bone structure (axial projection).

Fig. 9  CBCT analysis of the 1/3 of all three filled root canals and their interrelation (axial).

Fig. 10  CBCT analysis of the coronal 1/3 of all three filled root canals and their interrelation (axial).

Fig. 11  3D reconstruction of the root canal filling material.