

Jordan University of Science and Technology

Root and canal morphology of mandibular first and second molar teeth in a Jordanian population

Authors: A.A Al-Qudah & LA Awawdeh

Abstract: Abstract AIM: To examine the root and canal morphology of mandibular permanent first and second molar teeth in a Jordanian population. METHODOLOGY: A total of 685 extracted mandibular first and second permanent molar teeth were collected from dental clinics within north Jordan. The teeth were examined visually and the root number and morphology were recorded. After that, access cavities were prepared, pulp tissue dissolved by sodium hypochlorite and the root canals injected with Indian ink. Stained teeth were decalcified with 10% nitric acid, dehydrated with ascending concentrations of alcohol and rendered clear by immersion in methyl salicylate. The following observations were evaluated: (i) number of canals per root; (ii) number of root canals per tooth; (iii) canal configuration in each root; (iv) number and location of lateral canals and (v) presence of intercanal communications. RESULTS: Of 330 mandibular first molars, the majority had three (48%) or four (46%) canals, whilst 4% had a third disto-lingual root. Of 355 mandibular second molars, 58% had three canals, 19% two and 17% had four canals, whilst 10% had C-shaped roots. The most prevalent canal configuration in the mesial root of both first (53%) and second (40%) molars was type IV, and in distal roots was type I (54% in first and 79% in second molars). CONCLUSIONS: Jordanian mandibular first and second molar teeth exhibit features close to the average Caucasian root and canal morphology. PMID: 19549153 DOI: 10.1111/j.1365-2591.2009.01578.x [PubMed - indexed for MEDLINE] Share on FacebookShare on TwitterShare on Google+