

T6 - 3

Different healing results of the M1 superior depending on using a microscope during treatment

Herman M Kosteljik, G Slaus, P Bottenberg
Dept. of conservative dentistry, Free University of Brussels, Belgium

Abstract

Aim: to compare the long term healing results after endodontic treatment of the M1 superior with or without microscope and to establish a relation between healing results, the use of a microscope in endodontic treatment and the number of canals found and treated.

Methodology: in 2006, 90 upper first molars were treated endodontically in a dental office in Tilburg, the Netherlands by four different dentists. Patients were not preselected and treated at random by one of the practitioners involved. This also applied for the use of a dental microscope. All treatments were done mechanically using NaOCl as the main cleaning liquid and a guttapercha or resilon canal filling was placed. After treatment a final x-photo was taken. After at least one year a control x-photo was taken. Both photos were digitally recorded on Phosphor plates and read by a Digora Optime reader (Soredex, Finland). In 2011 a panel of three dentists compared the initial and control x-photo, projected side by side on a large screen and gave a verdict about the healing, being successful, or failing. Success was defined as the absence of apical periodontitis, failure as the presence of apical periodontitis on the control x-photo (no matter if it was present on the initial x-photo). Data were analyzed using the Chi²-test. Results: 92 % of the 60 molars treated with the aid of a microscope showed healing, whereas 63% of 30 molars treated without a microscope had a successful outcome. This was significant according to the Chi-square test ($p=0.0025$).

Nevertheless, The Chi-square test showed no significance ($p=0.18$) concerning the number of treated canals: 48 molars with four canals were treated and showed a successful healing result in 88% of the cases, and 42 molars with three canals treated had a successful outcome for 76%.

Conclusions: using a microscope in the endodontic treatment of first upper molars had a positive effect on the healing of apical periodontitis, irrespective of slight differences in treatment procedures caused by the individual practitioner. At the same time, the finding and treating of a fourth canal had a positive, but not significant effect on the healing of apical periodontitis. The use of a microscope reduces the number of not found and treated fourth canals in such a way that there is no significant difference in long term healing results left between molars with four or three canals treated.

Therefore it is important to use a microscope in the endodontic treatment of the M1 superior.

T6 - 4

Micro-tomographical evaluation of mesiobuccal root canal system in maxillary molars among the Turkish population

Kerem Askin, M. Ozgur Uyanik, Fugen Comert
Turkey

Abstract

Aim: The aim of this study was to investigate root canal morphology of mesiobuccal root canal system of three-rooted maxillary first molar teeth by using micro-computed tomography (μ CT) scans.

Methods: 30 freshly extracted maxillary first molar teeth were selected and scanned with μ CT device. (SkyScan 1074, Aartselaar, Belgium). These images were reconstructed by using NRecon software programme (SkyScan 1074, Kontich, Belgium) in order to obtain two-dimensional cross-sectional slices of the root structure. After constructing two individual 3D images exhibiting the shape of the root by using 3D-Doctor software programme (v.3.5 Able Software Corp, Lexington, MA). The morphology and frequency of second mesiobuccal root canal was investigated by this model.

Results: Second mesiobuccal root canal was detected in 76,6%

(23/30) of the samples analyzed. Single mesiobuccal root canal was only detected in 7 of the teeth investigated. (23,4%).

Conclusion: Morphology of the mesiobuccal root canal system in maxillary molar teeth generally present a more complex structure than the other root canals. Based on the results of this study, it can be concluded that care should be taken during preparation of maxillary molar teeth due to the high frequency of second root canal.

T6 - 5

Endodontic treatment of C-shaped mandibular molars. Report of five cases.

Theodora Zarra, Z Psimma, C Boutsioukis
Department of Endodontology, Dental School, Aristotle University of Thessaloniki, Thessaloniki, Greece

Abstract

Aim: The aim of this work was to describe the endodontic management of five C-shaped mandibular molars.

Summary: Five cases of C-shaped mandibular molars in Caucasian patients were referred to the Postgraduate Clinic of the Department of Endodontology over the last year. Pulp necrosis and/or periapical lesions were identified in all cases. The presence of C-shaped root canals was suspected during routine pre-treatment radiographic examination and was verified clinically during probing and scouting of the canals with small hand-files and the aid of an operative microscope. A single C-shaped root canal was only found in one case, while slightly varying canal configurations were evident in the other four cases. Root canals were instrumented using Hedstroem files in a circumferential filing manner and obturated using warm lateral or vertical condensation. All teeth received permanent restorations and were followed for up to 12 months. None of the cases presented signs of failure within this period.

Conclusions: The C-configuration is one of the most common variations of root canal anatomy in mandibular molars. Identification and successful treatment of such cases pose a challenge to the clinician. Implications of this anatomical variation may also extend to the prosthetic rehabilitation of these cases.

T6 - 6

Acute pain of the trigeminal nerve due to amalgam in the mandibular canal

Georgios Mikrogeorgis, O Pantelidou, V Thomaidis, Kleoniki Lyroudia
Department of Endodontology, Dental School, Aristotle University of Thessaloniki, Greece.

Department of Medicine, Democritus University of Thrace, Alexandroupoli, Greece

Abstract

Aim: This is a rare case of amalgam allocation in an alveolar cavity of an extracted third molar. This case report has an educational value and it is presented in order to be avoided such a traumatic injury in the future.

Case presentation: A 36 years old woman went to a private practice for a regular examination. The dentist decided at that time to make an extraction of the tooth #38. During the extraction tooth #37 was broken. The dentist decided that an amalgam filling had to be done to the tooth #37 directly after the extraction and during the same appointment. The patient showed an acute continuous pain of the whole facial region innervated from the trigeminal nerve that was imitated endodontic pain. A panoramic radiograph of the patient after three days showed a large piece of amalgam near or inside the mandibular canal. A surgery was followed at the region. Amalgam was removed from the mandibular canal and as a result acute pain disappeared during the post operative days.

Conclusion: Restoration with amalgam has to be avoided during a post-extraction time. Amalgam can appear toxic effects to the mandibular nerve that can transferred to the whole trigeminal nerve as well.