EMERGENCY TREATMENT OF IRREVERSIBLE PULPITIS

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SUMMARY:

Irreversible pulpitis is characterized by acute and intense pain that is difficult to control with painkillers; hence the patient needs urgent endodontic help

The aim of this study has been to determine the minimum set of interventions needed in order to reduce the pain and prevent further complications when treating emergency cases of irreversible pulpitis.

The study encompassed 102 endodontic cases. After being diagnosed as advanced irreversible pulpitis, the cases were divided into 3 groups depending on the manipulations.

The results show that the minimum set of interventions leading to a satisfactory clinical result, to a lower percentage of bleeding in the root canal and pain at percussion, was the one in Group 2.

The best clinical results were achieved by Group 3, but frequently, due to the lack of time within a single appointment, it is impossible to implement all manipulations in this group.

Key words: emergency treatment, intracanal medicaments, irreversible pulpitis

INTRODUCTION

Irreversible pulpitis at an advanced stage of development is characterized by acute and intense pain that is difficult to control with painkillers (2, 4); hence the patient needs urgent endodontic help. In such cases a quick and precise diagnosis is necessary, as well as immediate action to treat the symptoms (1, 3, 5, 6).

Very often the lack of time is one factor that influences significantly the treatment protocol.

AIM

The aim of this study has been to determine the minimum set of interventions needed in order to reduce the pain and prevent further complications when treating emergency cases of irreversible pulpitis.

METHODS AND MATERIALS

The study encompassed 102 endodontic cases in patients aged 19 to 50 (a total of 98 patients, 45 men and 53 women, with no record of recurring illness or allergies to foods or medicaments), who were treated by 6 groups of students in the training halls during the period February 2005-March 2006.

The diagnosis was made using data from the anamnesis, objective clinical studies (examination, probing, percussion, palpation), and X-ray investigation.

The leading symptom in the anamnesis was spontaneous and continuing pain, recurring periodically and not responding to peripheral analgesics.

Examination revealed big carious defects. The functioning of the teeth was impaired.

The X-ray studies showed developing carious processes near the tooth pulp and no evidence of periapical changes.

After being diagnosed as advanced irreversible pulpitis, the cases were divided into 3 groups depending on the manipulations that were carried out:

Group one (34 cases) - application of the anesthetic Ultracain® D-S Forte 2 ml amp., removal of the carious mass, and provision of endodontic access by opening the pulp chamber and the orifices.

Extirpation of the tooth pulp and application in the pulp chamber of a medicinal pad of Creso-spad (medicament for disinfecting the root canal after pulpectomy with very low surface pressure, which secures very good penetration in the dentine canals, without formalin; contains 20% metacresyl acetate as an analgesic agent).

Group two (34 cases) - application of the anesthetic Ultracain® D-S Forte 2 ml amp., extirpation of the tooth pulp, electrometric establishment of working length through Rayex 4 and X-ray, and treatment of the root canal until an apical stop is reached. Placement of a medicinal pad of Creso-spad in the pulp chamber.

Group 3 (34 cases) - application of the anesthetic Ultracain® D-S Forte 2 ml amp., extirpation of the tooth pulp, electrometric establishment of working length through Rayex 4 and X-ray, total treatment of the root canal (step-back technique) and filling with Cortisimol paste (Prednisolone acetate 1,1%, Paraformaldehyde, Zinc oxide, Lead oxide red, Excipients) and gutta-percha points.

After carrying out the above manipulations, bleeding and the presence of pain at percussion were monitored for

48 to 72 hours (bleeding in the root canal can be determined through the presence of blood on a cotton pad soaked in medicine, dried, and then placed in the pulp chamber).

The data was processed with the statistics package SPSS 13.0.1. $p<0,05$ was selected as the significance level at which the null hypothesis is rejected.

RESULTS

Chart 1 presents the correlation between the type of manipulation and the bleeding in the root canal: there is significantly less bleeding in patients subjected to Group 2 manipulations than in patients subjected to Group 1 manipulations.

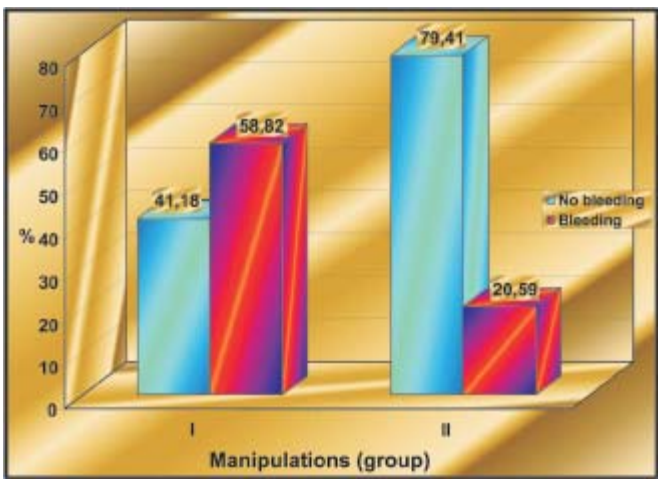

Chart 1: Frequency distribution of bleeding in the root canal according to group of manipulations used

Chart 2 presents the correlation between the manipulation and the presence of pain at percussion: there is significantly less pain in patients subjected to Group 2 and 3 manipulations compared to the ones subjected to Group 1 manipulations.

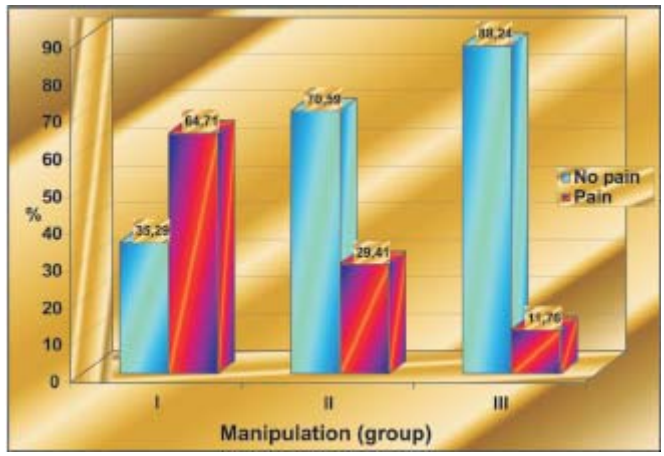

Chart 2: Frequency distribution of pain at percussion according to group of manipulations used

CONCLUSION

The minimum set of interventions leading to a satisfactory clinical result, to a lower percentage of bleeding in the root canal and pain at percussion, was the one in Group 2.

The best clinical results were achieved by Group 3, but frequently, due to the lack of time within a single appointment, it is impossible to implement all manipulations in this group.

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