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ORIGINAL ARTICLE/ARTICOLO ORIGINALE

The activation of irrigation solutions in Endodontics: a perfected technique

L'attivazione degli irriganti in Endodonzia: una tecnica perfezionata

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KEYWORDS
Irrigation solutions;
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Microscope;
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Abstract
Aim: In endodontics a complete chemo mechanical cleansing of the complex root canal system is essential in order to achieve a theraupetic success.
Methodology: Sodium hypoclorite due to its antimicrobial and proteolytic characteristic, is an efficient endodontic irrigant and it is the most commonly used.

The following article introduces a refined technique in order to increase the degree of cleansing during endodontic treatment.

The technique involves intracanal heating of the irrigants through a heat source.
Results: The described technique is able to enhance simply and considerably the use of sodium hypochlorite, making it easily accessible even to generic operators.
Conclusions: To confirm the validity of this improved technique, further research and scientific studies are needed, although at the clinical level, the results by using it are very satisfactory.

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PAROLE CHIAVE
Soluzioni irriganti;
Attivazione;
Microscopio;
Ipoclorito di sodio.

Riassunto
Obiettivo: In Endodonzia una completa detersione chemio-meccanica del complesso sistema dei canali radicolari è fondamentale per il raggiungimento del successo terapeutico.
Materiali e metodi: L'ipoclorito di sodio, grazie alle sue proprietà antimicrobiche e proteolitiche, è un irrigante endodontico efficiente ed efficace ed è il più comunemente utilizzato.

L'articolo che segue introduce una tecnica perfezionata per incrementare il grado di detersione durante il trattamento endodontico. La tecnica prevede il riscaldamento intracanalare della soluzione mediante una fonte di calore.
Risultati: La tecnica descritta riesce a potenziare in modo semplice e considerevole l'uso dell'ipoclorito di sodio, rendendola facilmente fruibile anche agli operatori generici.
Conclusioni: Per confermare la validità di questa tecnica perfezionata occorrono ulteriori ricerche e studi scientifici, anche se a livello clinico i risultati che si stanno ottenendo utilizzandola sono davvero soddisfacenti.

Introduction

The long-term success of endodontic treatment is closely linked to adequate cleansing of the endodontic space after root canal shaping, and then proceed to a complete obturation of the complex root canal system.[1–3] Probably, a significant percentage of failures is caused by the presence of residual pulp tissue.[4] The endodontic space is composed by spaces easily accessible to hand and rotary instruments (main canals) and, as confirmed by many clinical and histological studies, by not easily accessible or inaccessible spaces (isthmus, delta, loop, lateral and accessory canals and dentinal tubules)[5] (Figs. 1–3). Root canal shaping is not able to reach all areas of the root canal system, regardless of the technique used; then a part of canal is not treated. It is therefore necessary to carry out the endodontic biochemistry cleansing (accessible and not accessible spaces); once cleaned, it can be filled and obtured with guttapercha and cement during obturation.[6] It is important to use proper care and diligence in the diagnosis and treatment of endodontic disease and make treatment plan, record data of pre-treatment and treatment itself and save them.[7] These are tips, useful to gather documents that can, in case of necessity, prove the correctness of the diagnostic, therapeutic and ethics behavior held by the dentist. Particularly important is recording and storage the informed consent, as in a non-negligible percentage of cases the complaint raised to the dentist is right in the defect information to the patient.[8] Bacteria are

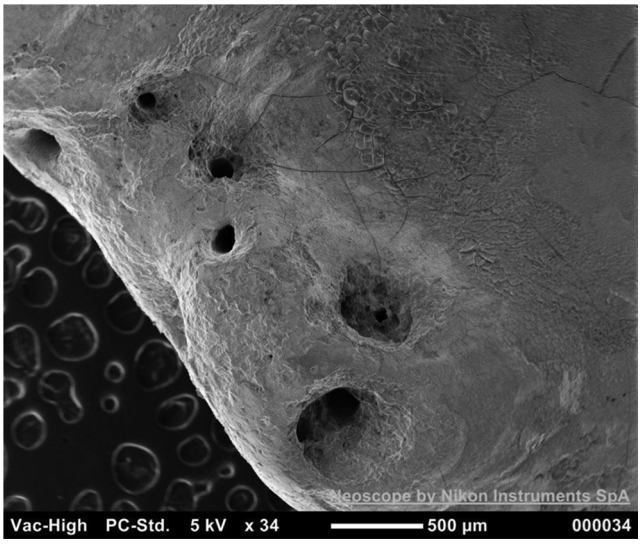

Figure 1 Root apex of the mesial root of a lower first molar SEM photographed: the number of many exits are shown.

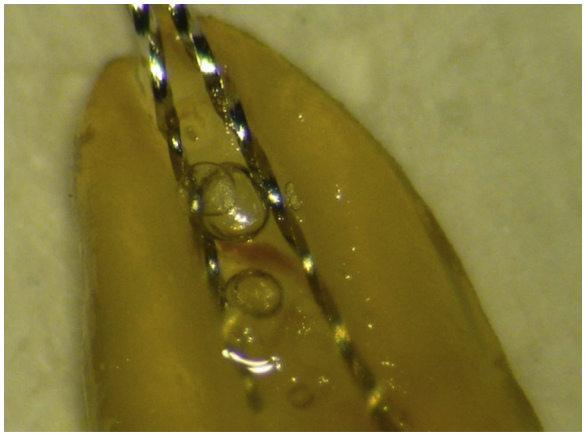

Figure 2 Diaphanization of a lower central incisor: an isthmus between the two root canals is shown.

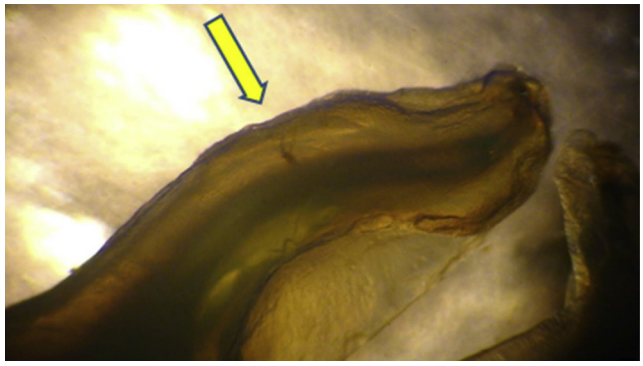

Figure 3 Diaphanization of a lower first molar: a lateral canal in the middle third of the distal root is shown.