



Clinical Evaluation Of Endodontic Treatment Of Human Teeth Using Natural Intracanal Medicament - An In-Vivo Study

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Abstract

To compare and evaluate the clinical symptoms and radiographic evidence of periapical healing after endodontic treatment of teeth with natural intracanal medicament. Patients requiring root canal treatment were assigned randomly into two groups. The teeth in group I were obturated after using Aleo vera extract in the canal, while those in group II were medicated with neem extract and then obturated. Patients were recalled to evaluate the treated teeth both clinically and radiographically for periapical healing. Teeth obturated after using neem extract showed better healing as compared to Aleo vera extract. The use of natural plant extract, preferably neem extract, may be recommended for better healing.

Keywords: Neem, Aleo vera, intracanal medicament, endodontic treatment

Introduction

An endodontic treatment's main goal is to remove damaged tissue, eliminate germs from the root canal system, and prevent it from being decontaminated. Intracanal medicament is used to lower the amount of bacteria in the root canal system and to keep periapical disease under control.

A wide variety of synthetic antimicrobial agents have been used over the years as endodontic medicaments. Because of the increased antibiotic resistance to these antimicrobial agents, toxic and harmful side effects of few common antibacterial agents, there is a need for alternative agents which are affordable, non-toxic and effective.

The efficacy of root canal treatment is dependent on the intracanal medicament. With the rise in bacterial resistance to antibiotics, there has been a surge in interest in the development of new antimicrobial classes for infection management. Researchers have looked into numerous natural substances in the search

for novel irrigants and intracanal medicaments with good biocompatibility and antibacterial activity.

It has been found that natural plant extracts could be used as effective endodontic medicament. Herbal or natural products have also become more popular today due to their high antimicrobial activity, biocompatibility, anti-inflammatory and anti-oxidant properties. A wide variety of herbal products have been used in the past in medicine.

Material and Method

Patients requiring root canal treatment with periapical pathology were included. The teeth were assigned randomly into two groups and treated according to standardized protocol. The teeth in group I were obturated after using Aleo vera extract in the canal, while those in group II were medicated with neem extract and then obturated. These were used in as the natural intracanal medicament in the protocol. Post obturation restoration was done. Patient was recalled

to evaluate the treated teeth both clinically and radiographically for periapical healing.

Result

Teeth obturated after using neem extract showed better healing as compared to Aloe vera extract. The use of natural plant extract, preferably neem extract, may be recommended for better healing.

Discussion

Total bacterial eradication from the root canal system is a major goal of endodontic treatment. The use of intracanal medicaments and irrigants is often mandatory to eliminate bacteria from root canals in order to stop their ingress, prevent their growth, and cut off their source of nutrients.

In the study, the radiographic changes were quite evident in the cases of Group I as compared to Group II where the radiographic changes seen were less but triggering change. There were not much of clinical symptoms like irritation or any burning sensation that usually may occur in some patients when using intracanal medicaments and solutions like sodium hypochlorite. In the case where Neem extract was used, the later changes were noticed much better than with Aloe Vera extract.

Herbal extracts have been used in dentistry for reducing inflammation, as antimicrobial plaque agents, for preventing the release of histamine and as antiseptics, antioxidants, antimicrobials, antifungals, antibacterialantivirals and analgesics. The prime benefits of using , herbal alternatives in dentistry are cost- effectiveness, readily available, less toxic and lack of microbial resistance reported so far.

Aloe Vera possesses good anti-bacterial and anti-fungal activity. In a study conducted, anti-microbial effect of water, alcohol, chloroform extracts of aloe Vera gel were investigated and it was found that chloroform extract of aloe Vera had significant anti-microbial effect against *E. faecalis*.

Neem's anti-viral, anti-fungal, anti-bacterial and anti-carcinogenic activity makes it a potential agent for root canal irrigation. The use of neem is advantageous as it is not likely to cause the severe harms to patients that might occur through sodium hypochlorite accidents.

It was also observed that ethanolic extract of neem had significant anti-microbial activity against *E. faecalis*.

Conclusion

Even though the use of herbal intracanal irrigants has been shown promising results when used under *in vitro* conditions, but *in vivo* studies are very limited. This could be owing to the scarcity of information on its usage as an intracanal medicament *in vivo* due to ethical concerns. Herbs can play a promising function as root canal irrigants, according to *in vivo* research so far. However, more clinical trials and research are needed before they can be considered as viable alternatives to synthetic root canal medicament.

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