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Case Study

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USE OF PLANTAGO MAJOR AS PULPAL MEDICAMENT IN PRIMARY TEETH

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ABSTRACT

Plantago major (P. major) is an ancient herb, with medicinal properties, widely used in Homeopathic medicine. It contains flavonoids, polysaccharides, terpenoids, lipids, iridoid glycosides etc. In this report, it is used as medicament for healing of pulp of primary teeth in a child. Nine months clinical trial follow-up of patient showed good success rate, with no history of pain/swelling, Post-operative radiographs also showed that, there were no signs of bone inflammation around the tooth.

KEYWORDS: Pulpal healing, medicament, Plantago.

INTRODUCTION

Plantago major is primarily used treat wounds, and in Dentistry as a Cariostatic agent and mouth wash.[1-3] It is well known for its antioxidant, free radical scavenging effects and anticancer properties. It is an extensively researched medicinal plant since ancient times due to its anti-bacterial, anti-fungal, and anti-viral properties, and it also regulates the immune system which can contribute to wound healing. Less is known about the efficacy of this magic wand called Plantago, as a pulp dressing medicament in vital pulp therapy of primary teeth.

CASE REPORT

A 7 year old male child reported to the Pediatric department of a Dental college, with chief complaint of pain in lower left tooth *i.e* 84 with food lodgment. The pain ceased with removal of the irritant. The radiograph of the tooth was taken which showed radiolucency involving enamel, dentin and approaching pulp. There was no peri-apical pathology seen on radiograph. There was no mobility or sinus tract seen with respect to the offending tooth. The instrument tray was set up (Fig 1). The procedural tooth was anesthetized & isolated with rubber dam. The pulp chamber was de-roofed using a round bur and the pulp chamber was enlarged with a safe end bur to enable access for instrumentation. Sharp spoon excavator was used to scoop out the coronal pulp from the pulp chamber, a cotton pellet moistened with **Plantago mother tincher** was applied to the pulp stumps for 4 minutes. After removing the cotton pellet, fixation was monitored by checking for a brownish discoloration of the cotton pellet and no bleeding from the pulp stumps (Fig 2). Then a thick mix of intermediate restorative material (EUGENOL FREE Reinforced zinc oxide) layer was placed into the coronal pulp chamber which was further restored with a Glass ionomer cement restoration, which was later covered with a stainless steel crown. The patient was recalled after 1 week and followed up at 3, 6 and 9 months interval for clinical and radiographic evaluation (Fig 3). There was absence of pain, swelling and mobility and radiographic evaluation showed absence of any bony pathology.

DISCUSSION

Herbal products have been utilized for their antibacterial, antifungal, antioxidant, and anti-inflammatory properties since ancient times.[4] Homeopathic treatments for temporomandibular joint diseases, xerostomia, sialorrhea, neuralgia, and oral ulcers have been suggested in the field of dentistry. The pharmaceutical plant Plantago (P.) major L., sometimes known as huge plantain, is a member of the Plantoginacae family. Plantago major L. preparations can be used to treat viral infections and various illnesses, including bleeding gums. Tannins' presence is indicative of their strong antibacterial and hemostatic qualities. Many plantago species exhibit strong antioxidant, antiviral, and anti-inflammatory properties.

Research by Jamilah et al.[5] on the chemical makeup of different extracts from P. major leaves (petroleum ether, methanol, ethyl acetate, n-butanol, and aqueous) revealed

that, while the organic acid groups, flavonoids, and terpenoids varied, all of the extracts contained phenol groups. The two main terpenoids found in P. major leaves are ursolic acid (0.22%) and oleanolic acid (0.07%). Tests were conducted on Staphylococcus aureus, Bacillus subtilis, Escherichia coli, Candida albicans, and Candida tropicalis using the whole plant methanolic, ethanolic, and aqueous extracts of P. major. At 100–200 mg/ml, the methanolic and ethanolic extracts demonstrated bactericidal efficacy against both Gram positive and Gram negative tested microorganisms.

IMAGES

Figure 1: Armamentarium.

Figure 1: Fixation of pulp

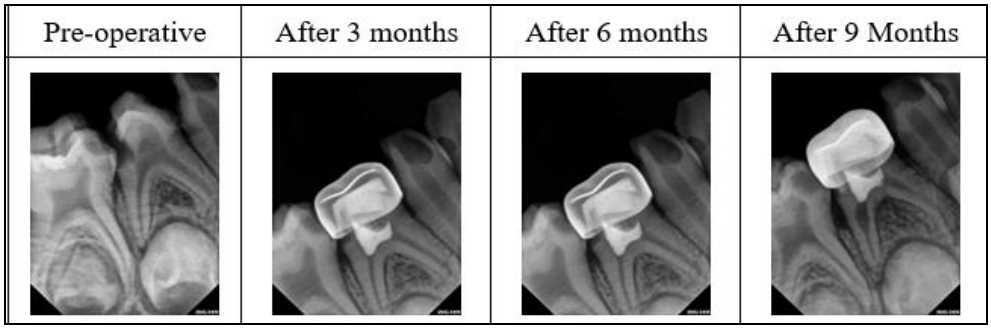

Figure 2: Radiographic Follow-UP.

CONCLUSION

Plantago major mother Tincher showed ***promising results*** as a pulpotomy agent in this case report. Further studies need to be conducted to investigate about the agents efficacy.

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