



CASE PRESENTATION

Effectiveness of irrigation with calcium hydroxide in the treatment of chronic dentoalveolar abscess, based on a case

Efectividad de la irrigación con hidróxido de calcio en el tratamiento del absceso dentoalveolar crónico, a propósito de un caso

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ABSTRACT

Introduction: a fistula is, by definition, the opening in the mucosa or skin of a drainage route that the body itself creates, to allow the purulent material to escape to the external environment and allow the natural drainage of an abscess.

Objective: to describe a patient with a chronic dentoalveolar abscess and his treatment with calcium hydroxide.

Case presentation: a young female patient of 17 years old came to the office with dental discomfort, inflammation in the jaw area on the left side with the presence of facial redness, the clinical history was taken, the intraoral and extraoral clinical assessment was carried out, radiographically, and tooth #36 was taken. Radiographically, widening of the periodontal ligament was observed. In the apical region, a radiolucent shadow with diffuse edges was observed, and the presence of a chronic dentoalveolar abscess could be verified.

Conclusions: pulp pathologies caused by anaerobic and aerobic microorganisms present in the oral cavity can be treated successfully most of the time when the patient arrives at the dental office in a timely manner.

Keywords: Calcium Hydroxide; Formocresols; Drainage.

RESUMEN

Introducción: una fístula es, por definición, la abertura en mucosa o piel de una vía de drenaje que el propio organismo crea, para permitirle la salida del material purulento hacia el medio externo y permitir el drenaje natural de un absceso.

Objetivo: describir un paciente con un absceso dentoalveolar crónico y su el tratamiento con hidróxido de calcio.

Presentación de caso: paciente joven de género femenino de 17 años acude al consultorio con malestar dental inflamación en el área de la mandíbula del lado izquierdo con presencia de enrojecimiento facial, se procedió a realizar la historia clínica, la valoración clínica intrabucal y extrabucal, se realizó la toma radiográfica del diente #36 radiográficamente se observó ensanchamiento del ligamento periodontal, en la región apical se observó una sombra radiolúcida con bordes difusos, pudiendo comprobarse la presencia de un absceso dentoalveolar crónico.

Conclusiones: las patologías pulpares causadas por microorganismos anaerobios y aerobios presentes en la cavidad oral pueden ser tratadas exitosamente la mayoría de las veces cuando el paciente llega oportunamente a la consulta odontológica.

Palabras clave: Hidróxido de Calcio; Formocresoles; Drenaje.

INTRODUCTION

Bacteria present in a root canal can migrate to the periradicular tissues, causing a chronic apical abscess (CAA), which could evolve into cellulitis. In these cases, the tooth is a source of infection. It presents as a clinical picture with mild or intense pain and inflammation, which can extend to the facial spaces. The symptoms are: fever, chills, headache and nausea. Facial spaces are potential anatomical spaces that exist between the fascia, underlying organs and other tissues, such as the vestibular buccal space, which is the area between the vestibular cortical plate and the overlying mucosa.⁽¹⁾

Odontogenic infections are generally underestimated in terms of morbidity and mortality, although their incidence and severity have decreased drastically in the last 70 years. However, these infections can present different degrees of severity and some can even be quite complex and require emergency care in a hospital environment under a specialist in Oral and Maxillofacial Surgery. Odontogenic infections are commonly the result of pericoronitis, caries with pulp exposure, periodontitis or the complication of a dental procedure.⁽²⁾

Periodontal diseases generally have a slow and progressive course, chronic type, with little or no pain. This lack of signs and symptoms often masks the presence of the disease until serious damage occurs. However, there are some acute inflammatory periodontal processes that are characterized by pain. This entity is found in the Classification of Periodontal Diseases and conditions.⁽³⁾

Odontogenic abscesses include a broad group of acute infections that originate in the teeth or periodontium and are the main causes for patients to request emergency assistance at the dental clinic. Currently it has been classified as the third most common in patients with untreated periodontitis and during the maintenance period. Periodontal abscess is an infection and, consequently, localized purulent inflammation of the periodontal tissues and is the most common clinical finding in patients with moderate or advanced periodontitis.⁽³⁾

Tooth abscess is the accumulation of pus (infected material) in a tooth or gum, bacteria is the cause of a tooth abscess. Bacteria usually enter the tooth when the enamel (outer part of the tooth) is damaged due to tooth decay. The bacteria could also enter after an injury to the tooth, such as when a tooth is broken or chipped. Procedures performed on the teeth or gums could also cause a tooth abscess.⁽¹⁾

Food particles that get stuck between the teeth for an extended period of time could also lead to the formation of an abscess. A tooth abscess is a complication of tooth decay. It can also occur when a tooth is broken or hit. Openings in the tooth enamel allow bacteria to infect the center of the tooth (the pulp). The infection can spread from the root of the tooth to the bones that support it.⁽⁴⁾

CASE PRESENTATION

A young 17-year-old female patient came to the office with dental discomfort, inflammation in the jaw area on the left side with the presence of facial redness. The medical history was taken, the intraoral and extraoral clinical assessment was performed, and the radiographic recording was performed. Of tooth #36, radiographically, widening of the periodontal ligament was observed. In the apical region, a radiolucent shadow with diffuse edges was observed, and the presence of an acute dentoalveolar abscess could be verified.

Subsequently, the truncal anesthesia technique is performed with 2 % lidocaine and 4 % articaine, intraligamentary technique, the cameral opening is performed - absolute isolation, 2,5 % sodium hypochlorite irrigating substance - foraminal debridement - to drain the cameral route and by means of vestibular pressure, PQM biomechanical preparation - intracanal medication (formocresol), for eight days.

The patient is instructed to return to the office after eight days, then in the next session the biomechanical preparation is performed again - intracanal medication calcium hydroxide + glycerin (viscous vehicle). Subsequently, the radiographic control is performed and a very noticeable decrease in the periapical lesion is observed. Vertical percussion tests and vestibular pressure tests are performed. Clinically, the absence of purulent exudate and bad odor is observed, obtaining positive indications for proceed to fill the root canals.

Obturation of the root canals was carried out mesial vestibular canal - mesiolingual canal - distovestibular canal, the single cone technique was performed, with AH plus obturator cement - coltosol - IRM. In order to obtain an airtight seal and contribute to the success of the endodontic treatment, an interconsultation was carried out with the oral rehabilitation professional to proceed with oral rehabilitation of the tooth that received the dental treatment, improving the prognosis, providing the patient with well-being, and functionality, aesthetics of the tooth that was endodontically treated.

Method

Niti instruments (diameter 25 mm) Mk life SRF files - sequence Rotary file04/15, #06/20, #06/25 and #04/35. Cameral opening cutters 1013 - 1014.

Compensatory wear cutters: 3082 - 3083

X-ray - ultrasound - calcium hydroxide + glycerin - formocresol - coltosol - IRM glass ionomer.

Shutter Cement

Apical locator

endodontic motor



Fig. 1 Preoperative



Fig. 2 Preoperative Rx



Fig. 3 Intramucosal phase 2 of dentoalveolar abscess



Fig.4 Coronary opening and location of the root canals. CMV - CML CDV.



Fig. 5 Postoperative Rx Pz#36

DISCUSSION

The incidence of periapical pathology is 2,9 % in the general population. Periapical granulomas are the most common, followed by radicular cysts. 80-90 % of these lesions are satisfactorily resolved with endodontics; periapical surgery is indicated when the conservative therapeutic option does not achieve the desired success.⁽⁵⁾

Clinical and radiographic assessment is important as criteria for therapeutic failure. An asymptomatic tooth may present clinical and radiographic signs that suggest changes at the periapical level, evidencing treatment failure. 10 indicating as clinical failure criteria: tooth mobility, localized periodontal disease, presence of fistula, tooth function, signs of infection and as radiographic failure criteria: widened periodontal ligament (Greater than 2 mm), increase in size of bone rarefaction, absence of bone repair, deficiencies in condensation and extension, excessive extension and root resorption associated with other semiology.⁽⁶⁾

Today it is considered that neither the presence nor the absence of symptoms alone can determine the failure of a treatment without the integration of other factors. Without a doubt, one of the ways to control the success or failure of the root canal treatment performed is to plan a follow-up of the case through a clinical and radiological examination. Failures of endodontically treated teeth are most frequently evident in the first 24 months; but they can manifest up to 10 years or more. The most recommended follow-up periods are six, 12, 18 and 24 months.⁽⁷⁾

Currently, root canal therapy is the treatment of choice when preserving a dental organ and in most cases the results are favorable, however, there is a high incidence of failures due to ignorance of many of the aspects. basic and primordial such as diagnosis, dental morphology, asepsis (absolute isolation) of the operating field and even lack of experience to perform a good opening, location of canals or good instrumentation and obturation of the root canal system; We cannot ignore that epidemiological reports show an incidence of failure that ranges between 25 to 40 %.⁽⁵⁾

Endodontic surgery is the treatment of choice for teeth that cannot be adequately treated by conventional endodontic treatments. The objective of this type of surgery is to eliminate the disease by modifying the periapical environment to accelerate the repair process, preventing recurrences and facilitating healing. Knowledge of anatomy and a clear understanding of the biological principles involved in the treatment of hard and soft tissues, as well as the principles involved in the healing of surgical wounds, are important to determine what the course of action would be to follow. failure of conventional endodontic treatment.⁽⁸⁾

CONCLUSIONS

Endodontic failures are associated with inadequate quality of preparations and the importance of implementing surgical treatment under certain clinical conditions is highlighted. Endodontists must use good irrigation taking into account calcium hydroxide for its properties and consider all treatment options.

Conflict of interest statement

The authors declare that there are no conflicts of interest.

Author contributions

All authors participated in conceptualization, data curation, formal analysis, research, methodology, supervision, writing-original draft, writing-review and editing.

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