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CHEMICAL BURN ON CHILDREN PATIENT DUE TO IATROGENIC OF CRESOPHENE DURING ROOT CANAL TREATMENT

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ABSTRACT

Introduction: Chemical burns are injuries to the oral mucosa caused by the application of corrosive topical materials. Chemical trauma or chemical burns are one cause of mouth ulcers. Cutaneous and perioral skin chemical burn clinically, erythema, burning sensation, edema, desquamation, and ulcers. **Case:** A 6-year-old child patient complained of a burning sensation in the corner of the left lip during a treatment of root canal treatment using cresophene. **Treatment:** Patient was given a topical application of aloe vera extract dental gel and was prescribed the same drug. **Discussion:** Cresophene is an antimicrobial agent used for infected root canal treatment. Cresophene is an agent antimicrobial class of phenol compounds, because it contains phenol, cresophene have antibacterial activity especially on group of gram-positive bacteria. The clinical presentation of chemical burns depends on the severity of tissue damage, the destructive nature, and mode of action of the causative agent. Compared with conventional therapies, aloe vera administered in various dosage forms may be helpful in accelerating wound healing and tends to increase the rate of successful healing as well as the rate of epithelialization. first and second burns.

INTRODUCTION

Traumatic injury, whether chemically, physically or thermally induced, more common in the oral cavity.[1] Chemical burns are injuries to the oral mucosa caused by the use of corrosive topical products. Chemical trauma or chemical burns are one cause of mouth ulcers.[2] Cutaneous and perioral skin chemical burn clinically, erythema, burning sensation, edema, desquamation, and ulcers. These injuries can resemble other common oral conditions in different ways.[3] Chemical burns of the oral mucosa can be caused by exposure to various substances chemicals such as pharmaceuticals and dental materials, Non-Pharmacological and Illegal Drugs.[4,5] Many dental materials that can cause chemical burns, such as cavity varnishes, bonding agent, phosphoric acid etching agents, iodine, phenols (carbolic acids), trichloroacetic acid, ferrous sulfate, chromic acid, hydrofluoric acid, sodium hypochlorite, calcium hydroxide, formocresol, paraformaldehyde, and arsenic.[4] The purpose of this

case report to show the management of chemical burn caused by iatrogenic procedure in dental practice.

CASE REPORT

Root Canal Treatment First Visit

A 6-year-old child patient came to Dental Hospital of Udayana University with complaints of perforated and painful lower left back teeth. On objective examination, caries was found on tooth 75, negative percussion and palpation tests, negative tooth mobility tests, and a positive vitality test. However, the examination and treatment plan were postponed because the child patient was uncooperative.

Root Canal Treatment Second Visit

During this visit, the procedure for cleaning the carious tissue and opening the pulp roof was continued. After that, the extirpation procedure was carried out. Root canal preparation was carried out using K-Files with conventional preparation techniques according to the working length. The next step is root canal sterilization. In this case the material used is cresophene. Application of the material by using a cotton palette that has been dripped with cresophene liquid, then placed in the dental pulp chamber 75. During the root canal treatment procedure, the operator noticed that the cresophene material was in contact with the area around the corner of the left lip and tongue. Patient is shocked by the spicy taste produced by the liquid cresophene which seeps into the patient's tongue and cheek. After 10 minutes, patient complained of a burning sensation in the corner of the left lip. It can be seen that the skin on the patient's left cheek is slightly reddish in color like a blister. After 1 hour the skin on the patient's cheek turned black like a burn.Then patient is consulted to the oral medicine department Dental Hospital of Udayana University. And was given a topical application of aloe vera extract dental gel, and was prescribed the same drug. The diagnosis was chemical burn due to cresophene material.

Figure 1. Lesion on the corner of the lip after one day patient exposed to creshopene material

Root Canal Treatment Third Visit and Follow Up Oral Medicine Department

At this visit the lesions on the skin of the corner of the patient's lip had disappeared and the patient had no symptoms of pain and heat on the skin of the corner of the lip. Prescription drugs are used regularly. So that the patient can resume root canal treatment.

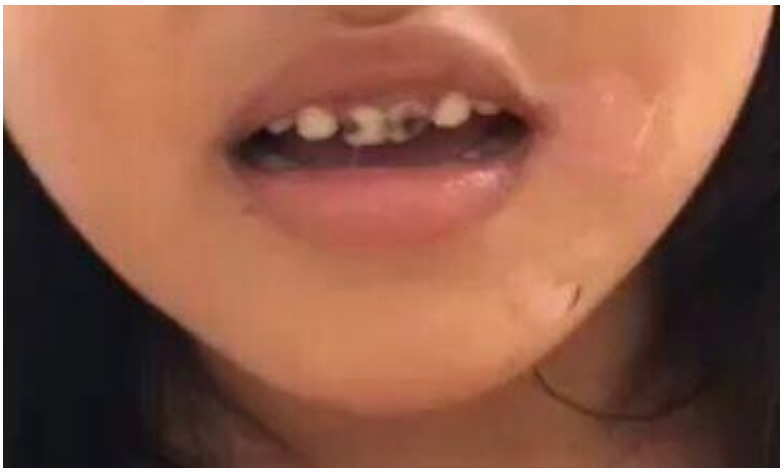

Figure 2. Lesion on the corner of the lip after control, and the lesions appear to be improving.

DISCUSSION

Cresophene is an antimicrobial agent used for infected root canal treatment. It is an agent antimicrobial class of phenol compounds, because it contains phenol, cresophene have antibacterial activity especially on group of gram positive bacteria and has an antibacterial effect strongest against *Prevotela spp*, *Enterococcus faecalis*, and *Streptococcus aureus*. Cresophene can make growth *Enterococcus faecalis* is three times weaker, is used primarily in teeth with periodontitis apicalis early stages due to excessive use of instrumentation. Can also be used as a root canal disinfection before obturation process and as a dressing material in the root canal. Cresophene is a combination of three antiseptic agents strong bactericidal, parachlorophenol and corticosteroids. It has a weak irritant property. Cresophen has an effect strong bactericidal, namely Dexamethasone base 0.10%, Thymol 5.00%, Paraclorophenol 30.00%, Camphor 64.90%.[6]

The clinical presentation of chemical burns depends on the severity of tissue damage, the destructive nature, and mode of action of the causative agent.[7] Based on the clinical picture, lesions can vary from mild to severe depending on composition, pH value, chemical agent concentration, amount used, manner and duration of tissue contact, degree of penetration. tissue and mechanism of action. At the mucosal level, chemical burns appear as diffuse erosive lesions ranging from simple scabs to complete sloughing of the mucosa extending to the submucosa.[1]

In the event of chemical trauma, there will be coagulation of epithelial proteins which causes the epithelial surface to become white and wrinkled. If exposure to caustic substances is more After a long

period of time, necrosis occurs so that the epithelium of the epidermis from the underlying tissue and can be lifted easily.[8]

Compared with conventional therapies, aloe vera administered in various dosage forms may be helpful in accelerating wound healing and tends to increase the rate of successful healing as well as the rate of epithelialization. first and second burns.[9] *Aloe vera* has mending properties such as Glucomannan, a mannoserich polysaccharide, and gibberellin, a development hormone, interatomic with development calculate receptors on the fibroblast, subsequently invigorating its movement and expansion, which in turn altogether increments collagen amalgamation. Moreover has anti-inflammatory activity hinders the cyclooxygenase pathway and diminishes prostaglandin E2 generation from arachidonic corrosive and from compound like C-glucosyl chromone was separated from gel extricates.[10]

CONCLUSION

Contact of the mucosa of the oral cavity and skin of the perioral area with cresophene material during root canal treatment procedures can cause injuries to the mucosa or skin surface which is called a chemical burn. The use of topical drugs containing anti-inflammatories can reduce injuries caused by contact with chemicals.

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