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A Rare Case of Palatal Necrotic Ulcer Following Local Anesthesia

Rais Mohammed Amir*, Chaouki Ahmed

Department of Dentistry, Faculty of Medicine of Algiers, University Algiers 1

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***Corresponding author:** Rais Mohammed Amir

Abstract **Case Report**

Definitely, the daily practice in dentistry involves widely the realization of local anesthesia considered as the cornerstone in the control of the pain, the gain of the patient's confidence and providing favourable conditions to realize dental and oral procedures, despite that the security of the local anesthesia is high, it is possible to have complications, the hard palate is one of the common sites of local complications after the administration of local anesthetics. Palatal necrotic ulcer is a rare complication that occurs due to traumatic needle penetration, excessive administration of the solution, the use of contaminated solutions, reactivation of latent viruses or latent forms of diseases such as herpes, blanching at the anesthetic site and a poor blood supply. In this Paper, we have presented a rare case of palate postanesthetic necrotic ulceration in a 31 years-old male which appeared two days after the administration of a palatal infiltration for dental procedures, adequate treatment was performed and healing occurs after 3 days.

Keywords: Anesthetic necrosis, Complication, Dental, Palate, Ulcer.

INTRODUCTION

Local anesthesia is administered in various dental procedures performed in the regular dental practice, it is essential for the comfort of both the practitioner and the patient, the control of the patient's pain consists of the administration of an effective local anesthesia, thus ensuring adequate and correct local anesthesia is critical to the success of dental care [1].

Despite its high safety, sometimes complications occur either intraoperatively or postoperatively, which can lead to systemic toxicity, allergy, facial nerve paralysis, psychogenic reactions, methemoglobinemia and anaphylactic shock considered as a life-threatening complication, complications can also be hematoma, numbness prolongation, headache, edema, needle fracture, blurred vision, trismus, dizziness, vomiting and tissue necrosis [1, 2].

Palate is a favorable site for soft tissue lesions, this by its rich vascularisation and the dense, firm, and adherent nature of palatal tissues that could lead to tissue changes [1, 3, 4, 5].

Overall, the treatment of this type of complications remains conservative, first of all essentially the reassurance of the patient, than the prescription of analgesics, mouthwashes, the combination of local antiseptics and anesthetic preparations, antibiotics prescription to avoid secondary infections, surgery finds its indications rarely only if the underlying bone is involved, however, it is sometimes possible to perform wound curettage to cause bleeding, this must be done under antibiotic coverage and must ensure the formation of a new blood clot [1, 5, 6].

CASE REPORT

A 31-year-old male patient consulted the dental clinic complaining of a slightly painful but annoying greenish ulcer in the mouth which appeared since 2 days, the dental history revealed that before 3 days he had visited a private practitioner for an emergency treatment of his painful upper first premolar and he undergone a local anesthesia containing 2% lidocaine with adrenaline 1:100,000.

On the next day, the patient observed a greenish lesion that appeared in the infiltration's site of local anesthesia, the patient was overall in a good health, non-smoker, medical and dental history revealed that the patient has no general illness and he had undergone dental treatment previously without allergy to local anesthetic solutions. The intraoral examination showed medium oral hygiene and two deep ovoid ulcers covered with a greenish whitish necrotic slough (1 × 3 cm and 1 × 2 cm) and with well- defined erythematous

margins in the hard palate, on palpation, the lesion was slightly tender with no indurations (Fig.1).

Fig-1: Palatal ulceration with a greenish whitish necrotic at the date of consultation

Fig-2: Almost complete healing after 3 days

Since the patient was not diabetic and had no endocrine disorders, the diagnosis of mucormycosis was excluded. The treatment consisted of a small curettage of the wound without anesthesia, a prescription of antibiotics (amoxicillin), an analgesic (paracetamol) and an antiseptic (chlorhexidine). After only 3 days, spectacular result with almost complete healing was obtained (Fig.2).

DISCUSSIONS

In the daily dental practice, it seems that the administration of local anesthesia is a very widely used procedure to ensure the realization of many painful acts, generally, local anesthetic solutions are safe and non-irritating for the tissues, their correct and sufficient administration plays an important role in pain control, patient assurance and the guarantee of good conditions for the realization of dental cares and oral surgeries, however several complications are documented after the administration of anesthesia such as trismus, systemic toxicity, infection, needle breakage, hematoma, allergic reactions that can lead to anaphylactic shock despite their rarity and also ulcerations and tissue necrosis following local anesthesia [1]. The palatal tissue is the most common site susceptible to local complications and that in relation to its firmness and density. Although necrotic tissue ulceration of the palate is relatively rare, several factors can promote it, such as bleaching of the tissues during injection, forced and rapid administration of the anesthetic solution, but also the vasoconstrictor contained in a large majority of local anesthetics, the vasoconstrictor reduces surgical bleeding and reduce the oxygen supply to the injected site causing hypoxia and implies for its preservation an adjustment of local anesthetic solutions to a lower pH which accentuates tissue acidity, thus promoting the accumulation of acidic by-products and causing tissue ischemia [1, 4, 5, 6].

It should be noted that the reactivation of latent forms of herpes and recurrent aphthous stomatitis can promote intraoral ischemic lesions following local anesthesia [4, 5, 7, 8].

However, this lesion appears several hours after the administration of the anesthesia unlike allergic reactions which are also rare and manifest immediately after anesthesia administration, this ulceration is usually deep, erythematous and related to the injection site and its diagnosis must be differentiated with necrotizing sialometaplasia which is a rare inflammatory necrotizing reactive process that can involve minor and major salivary glands [9, 10].

Regarding the management of this complication, overall, it remains conservative, no surgical intervention unless the underlying bone tissue is involved or when ulcer does not heal, the first step is to reassure the patient since this manifestation is a complication of the anaesthesia which can strongly influence the patient's attitude and increase his fear and thus alter his motivation to regular dental care, the proscription is limited to antibiotics (amoxicillin) to prevent a secondary infection, analgesics such as paracetamol and local antiseptics such as chlorhexidine, in this case, in addition, a simple curettage of the lesion without anesthesia was performed to cause bleeding and formation of a new blood clot and therefore the use of mouthwash is delayed to two days. Overall, healing occurs within a week to two weeks; in this case, spectacular healing was reported after only 3 days [3, 4, 5, 8].

Sometimes, but fortunately rarely, excision of necrotic tissue seems to be necessary, it is also possible to use low level laser therapy (LLLT) due to its analgesic, anti-inflammatory, and biostimulating effects [11, 12] .

To minimize the incidence of this complication, it is recommended to avoid repeated palatal injections and high concentrations of vasoconstrictor, the product must be injected slowly in a controlled way and without pressure and therefore by a qualified practitioner, the dentist must also know how to diagnose and manage this type of complications [1, 3, 4, 5, 8, 12].

CONCLUSION

Although necrotic ulceration of the palate following local anesthesia is relatively rare, the dentist must be attentive during the use of local anesthesia, he must be aware of this complication when diagnosing palatal lesions, and should have a good knowledge of the management of this type of complications.

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