Postanesthetic ulceration of palate: A rare complication

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ABSTRACT

The routine dental practice involves various dental procedures which needs the application of local anesthetics. Generally, there are very few complications associated with these procedures. Complications such as tissue necrosis can occur following the rapid injection of local anesthetic solutions. Palate is a favorable site for soft tissue lesions, various factors such as direct effects of the drug, blanching of the tissues during injection, a relatively poor blood supply, and reactivation of the latent forms of herpes can all promote to tissue ischemia and a lesion in the palate.

Key words: Anesthesia, necrosis, palate, ulcer

INTRODUCTION

The regular dental practice involves various dental procedures which needs the application of local anesthetics. It is mainly given as local infiltration or nerve blocks. In local infiltration, anesthetic solutions are injected close to the apex of the involved tooth structures. Generally, there are very few complications associated with this procedure; however, possible complication may include infection, trismus, prolonged pain, needle breakage, paresthesia, hematoma, edema, facial nerve paralysis, sloughing of tissues, and postanesthetic intraoral lesions. Palate is a favorable site for soft tissue lesions and the various contributory factors such as the direct effects of the drug being administered, blanching of the tissues during injection, a relatively poor blood supply, and reactivation of the latent forms of disease such as herpes can all promote to the tissue ischemia and a ulcer. In this paper, we have presented two cases that developed ulceration of palate after administration of local anesthetic containing a vasoconstrictor along with its management.

CASE REPORTS

Case report 1

A 50-year-old male patient reported to the dental clinic with a chief complaint of an ulcer in the mouth since 4–5 days. The dental history revealed that he had undergone extraction with reference to 24 tooth under local anesthesia containing 2% lidocaine with adrenaline 1:100,000. A local infiltration was given in palate with reference 24 tooth region, after which patient reported an ulcer at the site of injection on the next day. No history of allergy to local anesthetics was elicited from previous dental treatments. The patient was overall in good health; on intraoral examination, a single crescent-shaped ulcer in the palate measuring 2 cm × 1.5 cm was present. It was extending mesiodistally from 23 to 25 and mediolaterally 7–8 mm inferior to palatal gingival margin to almost mid-palatine raphe. The floor of the ulcer was covered with grayish whitish necrotic slough with sloping edge and erythematous margins; on palpation, all inspector...
findings were confirmed the ulcer was slightly tender on palpation with no indurations present [Figure 1].

Case report 2
A 42-year-old male patient reported to the dental clinic with a chief complaint of pain in the palate since 2 days; his history revealed that he had received a palatal injection 3 days back of 2% lidocaine with 1:100,000 epinephrine in the area of the upper right first molar. The patient was overall in good health but with poor oral hygiene. No sign of allergy to local anesthetics was reported in the previous dental treatments. On Intraoral examination, on inspection, a single irregular-shaped ulcer in relation 26 and 27 teeth measuring 2 cm × 2 cm on the palate was present the surrounding margins of ulcer was sloping and erythematous. The center of ulcer was covered by a whitish yellow necrotic slough. On palpation, all inspectory findings were confirmed the ulcer was slightly painful with no indurations present [Figure 2].

A sensitivity test was done in both cases to rule out the delayed type of hypersensitivity reaction to the anesthetic solutions. It came out to be negative. Hematological investigation result showed both the patients were nondiabetic, so fungal infection (mucormycosis) was ruled out. In both cases, one thing was common both the patients have undertaken dental treatment in the same village of Mathura city (India) by unqualified dental professionals.

A combination of an anesthetic-antiseptic solution together with an oral analgesic was prescribed. After 1 week, almost complete healing of the ulcer was seen in Figures 3 and 4.

Discussion
Local anesthetic solutions which have been used in modern day practice are relatively nonirritating to tissues; however, ulceration and necrosis have been documented after the administration of local anesthetic. Allergic reactions are usually rare but if they occur they are mostly due to pharmacological effects of the agents used. Complications such as tissue necrosis can occur following the rapid injection of local anesthetic solutions, particularly those containing a vasoconstrictor. They reduce the supply of oxygen to the injected tissue thereby promote the buildup of acidic by-products.

Hypersensitivity reaction may develop almost immediately after administration of local anesthetic agents, whereas most dermatological reactions take several hours to manifest.

Application of a topical anesthetic agent for a longer duration may result in desquamation of epithelial tissue. Sterile abscess on the hard palate can be formed due to ischemia caused by the use of vasoconstrictor-containing local anesthetic. Postanesthetic intraoral lesions can
also be formed on the hard palate due to reactivation of recurrent aphthous stomatitis and herpes simplex.[1,5,7]

Management of such lesion formed after the administration of local anesthetic is usually conservative. It is mainly consists of reassuring the patient, prescribing analgesics, and combination of topical antiseptic and anesthetic preparations. Healing generally occurs within 8 to 10 days after the onset of the lesion. Rarely surgical intervention is necessary when ulcer does not heal. An oral protective emollient orabase paste can also be prescribed. The following measures can minimize such palatal lesions using topical anesthetic preparation according to the manufacturer’s specifications. Moreover, it should be applied for 1–2 min to maximize the effectiveness and minimize toxicity.[1,8]

Repeated palatal injection and solutions containing relatively high concentrations of epinephrine (i.e., 1:50,000; 1:30,000) should be avoided.[1]

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Conflicts of interest
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