

## Palatal Ulceration Complicating Local Anesthesia

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**Abstract:** Anesthetic ulcer is a rare condition occurring mostly in the hard palate possibly after a local anesthetic infiltration. The lesion is often deep and painful. Knowledge of the palatal anatomy and dental anesthetic, coupled with a slow deposition of the anesthetic solution will greatly help in minimizing the risk of local complications.

**Keywords:** Anesthetic, complication, hard palate, necrotic ulcer, palatal mucosa, ulceration.

### INTRODUCTION

In daily dental practice, we involve various procedures which need the application of local anesthetics. Generally, complications induced by these procedures are rare. Among them, ulceration is considered as an uncommon postanesthetic complication which occurs frequently in the hard palatal mucosa [1].

### CASE REPORT

A 45 year old woman with no notable medical history consulted the department of medicine and oral surgery complaining of painful ulceration in the mucosa of the hard palate.

This ulcer appeared three days after the extraction of the second upper left premolar performed since a week. Precisely, in the infiltration's site of local anesthetic solution with vasoconstrictor.

History medical revealed that the patient had undergone dental treatment previously without exhibiting any signs of allergy to local anesthetic solutions.

The intraoral examination showed poor hygiene, granulation tissue in the alveolar site of the extracted tooth, an ulceration lesion with erythematous

margins in the hard palate. On palpation the ulcer showed no peripheral indurations.

The periapical radiograph revealed the tooth socket of the second upper left premolar empty with no bone abnormality. Face to this lesion, curettage of the site's extraction of the second upper left premolar with prescription of an antibiotic (amoxicillin), algesic (paracetamol) and an antiseptic (chlorexidine).

The patient was been followed up after a week and two weeks. Healing was occurred in around 14 days.



**Fig-1: Palatal ulceration at the date of consultation**



**Fig-2: Alveolar radio**



**Fig-3: Follow up after seven days: lesion being healed**



**Fig-4: Follow up after 14 days: healing of the lesion**

## DISCUSSION

Dental procedures involving maxillary posterior teeth frequently require local anesthesia to the palate in conjunction with buccal anesthesia [2-4].

Modern local anesthetic solutions are relatively non-irritating to tissues. However, possible complication may include infection, trismus, prolonged pain, needle breakage, paresthesia, hematoma, edema, facial nerve paralysis, sloughing of tissues, and

postanesthetic intraoral lesions, neurological symptoms and tissue necrosis [1, 2, 5, 6, 8].

Ulcer is a rare lesion that may follow ischemia to a tissue. The palatal tissue is the most common site susceptible to local complications on account of its dense, firm, and adherent nature [7, 9].

Various factors such as direct pharmacological effects of the drug, blanching and injuring, of tissues during injection, the rapid injection of local anesthetic solutions, particularly those containing a

vasoconstrictor, have been reported. Also, relatively poor blood supply and reactivation of the latent forms of herpes or aphthous stomatitis can all promote to tissue ischemia and a lesion in the palate [1, 2, 6].

In fact, local anesthetic solutions with vasoconstrictors are adjusted to a lower pH in order to preserve the vasoconstrictors. However, it accentuates tissue acidity and reduces the supply of oxygen to the injected tissue and promotes the build-up of acidic [1, 2, 7, 8, 9].

The ulcer usually develops several days after the procedure. The ulceration is often deep and erythematous. The most common differential diagnosis of post anesthetic palatal ulcer is necrotizing sialometaplasia which is a self-limiting, benign, inflammatory disease of the minor salivary glands, also aphthous ulcer and herpes ulcer [8, 10].

Management of patients with intraoral lesions following the administration of local anesthetic solution is normally very conservative and consists of reassuring the patient and prescribing analgesics and antiseptic. Antibiotics are necessary for control of secondary infection. In many cases healing occurs within ten days of the onset of the lesion. In certain instances, when ulceration has taken a prolonged course, excision of granulation and necrosis tissue has been deemed necessary. Also, the low-intensity laser therapy can be an alternative therapy which has special effects such as biostimulation, analgesia, and anti-inflammatory [1, 2, 5, 6, 8, 10, 11].

Oral epithelium on the hard palate has the second highest mitotic activity in the mouth, with turnover of the oral epithelium occurring in 5–6 days. The palatal mucosa is well perfused from the greater palatine vessels [12-15].

To minimize the incidence of palatal lesions following the administration of local anesthesia, the following precautions are recommended:

- Use of a topical anesthetic preparation should be used according to the recommendation of the manufacturer.
- Slow deposition (0.5 ml/min) and minimal pressure of the anesthetic agent.
- Anesthetic solutions containing relatively high concentrations of epinephrine (i.e. 1:50,000; 1:30,000) should be used with caution. As an alternative, anesthetic solutions not containing a vasoconstrictor, such as 3% mepivacaine, may result in effective palatal anesthetic without soft tissue necrosis [1, 2, 6, 8, 10].

## CONCLUSION

The anesthetic necrotic ulcer of the palate, is rarely reported. It should be considered in the differential diagnosis of palatal ulcers. Care should be

exercised when a topical or a local anesthetic agent is used [6, 8].

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