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Case Report

Liver Clot: The Rare Post-Extraction Complication Striking within 72 Hours

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Abstract: Oral and Maxillofacial Surgeons may encounter complications while performing major as well as minor surgical procedures, either intraoperatively or postoperatively. Bleeding after a dental extraction is a frequent complication following surgery. This article discusses an uncommon postoperative complication characterized by prolonged bleeding and the formation of a "liver clot" coagulum, observed 72 hours following the extraction of root stump in an elderly female during a follow-up visit.

Keywords: Liver clot, Post Extraction Complication, Haemorrhage.

INTRODUCTION

Dental professionals with differing levels of expertise in oral surgery commonly carry out dental extractions in a variety of clinical environments. Despite contemporary dentistry's emphasis on preserving natural teeth for as long as possible, tooth extractions remain frequent [1]. The primary reasons for tooth extraction are caries and periodontal diseases, with orthodontic needs frequently driving extractions in patients under 20 years of age, caries predominating until middle age, and periodontal diseases becoming more common in later years [2].

Complications have been encountered by patients at rates ranging from 1% to 30.9%, despite it being considered a standard practice [3]. Following surgical procedures, patients may encounter a range of complications including alveolitis, edema, lockjaw, bone spicules, postoperative bleeding, and paresthesia [4]. The occurrence of intraoperative and postoperative complications can be mitigated by conducting a thorough examination of the patient's medical history, employing precise surgical methodology, and providing accurate guidance regarding postoperative protocols [5].

After a tooth extraction, it is not uncommon for complications to arise, with excessive bleeding being one of the primary concerns. This bleeding can occur for several reasons, often stemming from the early dislodgment of the clot formed at the extraction site. This dislodgment may result from inadvertent manipulation of the extraction area by the patient or from the enzymatic action of saliva. Instances of liver clots are exceedingly uncommon and may occur after periodontal surgeries, dental implant procedures, or even routine tooth extractions [6].

Here, we present the case of a 50-year-old lady who reported with an abnormal mass in her maxillary alveolus after 3 days of extraction. This case report details an uncommon occurrence of a "currant blood clot," often referred to as a "liver clot," following the extraction of a root stump of maxillary first molar.

CASE REPORT

A 50-year-old female reported to our department of oral and maxillofacial surgery with a chief complaint of decayed teeth in her left maxillary alveolus region. She expressed dissatisfaction because of pain in that region while eating. On Intraoral examination all the teeth were present in all four quadrants with a root stump in the region of left maxillary first molar region. An intraoral periapical radiograph was carried out to know the morphology of root stump present in the region of 26 (Fig 1).

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Fig 1: An intraoral periapical radiograph demonstrating the root stump of 26

A clinical case history was taken and there was not any relevant medical history. A treatment plan of extraction of root stump of 26 was made and explained to the patient. Consent was taken from the patient for the extraction of her tooth.

After administrating local anaesthesia, atraumatic extraction of 26 was carried out. Soft tissues surrounding the extraction site were treated with care to minimize any potential complications following the procedure. For achieving hemostasis, a gauze pack was placed at the extraction site and post operative instructions were given to the patient. A therapeutic antibiotic including 500 mg of amoxicillin with 125 mg of clavulanic acid, along with an analgesic containing 100 mg of aceclofenac and 325 mg of paracetamol for pain relief, was prescribed for the next 3 days.

On the third post-operative day, the patient returned to our OPD for follow-up. Intraoral examination showed an erythematous exophytic large proliferating mass measuring approximately 1.5cm in diameter at the extraction site accompanied by bleeding on touch (Fig 2).

Fig 2: An erythematous a large proliferating exophytic mass on 3rd post-operative day

The mass was dark brown in colour. On palpation, the mass was soft in consistency and tender. Patient's hematological investigations showed normal complete blood count (CBC) values. A dosage of 10mg Vitamin K intramuscularly for three days was started. On fourth day, excision of the mass was done under local anaesthesia followed by complete curettage and irrigation with povidone iodine solution (Fig 3).

Fig 3: Mass excised under LA

The advancement of the buccal flap was carried out, and suturing with the palatal mucosa using 2-0 silk suture in a simple interrupted fashion for closure was performed (Fig 4).

Fig 4: Buccal advancement for closure of site using 2-0 silk suture

Excised specimen was sent for histopathological examination. Analgesics were prescribed for pain relief and patient was kept under observation.

Histopathological Examination

Histopathology report showed a fibro-cellular connective tissue stroma. The connective tissue stroma was composed of disorderly arranged thick and thin bundles of collagen fibers interspersed with few spindle shaped fibroblasts. Focal areas showed irregular basophilic masses. Varying caliber of blood vessels with engorged red blood cells along with areas of hemorrhage was evident. Mild to moderate inflammatory cell infiltrate composed of neutrophils, lymphocytes and plasma cells were seen. And a final diagnosis of granulation tissue was given.

DISCUSSION

Hemorrhage, a serious complication, can occur during or after both minor and major oral surgeries [7].

Postoperatively patients often exhibit a tendency to manipulate the surgical site with their tongue, which can sometimes result in the displacement of the blood clot. This action can create negative pressure, potentially leading to the aspiration of blood from the affected area. Additionally, salivary enzymes may contribute to the premature lysis of the blood clot before proper organization and stabilization occur [8].

Haemorrhage can be classified into three types based on the timing of occurrence: primary, reactionary, and secondary [9]. Bleeding that occurs during surgery is referred to as primary haemorrhage [10, 11]. A reactionary haemorrhage, characterized by bleeding, typically manifests 2-3 hours post-surgery. Secondary haemorrhage, characterized by bleeding persisting up to 14 days post-surgery, is likely attributable to an infectious etiology [11].

Traumatic extraction, infections like periapical granuloma, or bone injury can cause primary prolonged bleeding during an extraction procedure. Post-extraction reactionary bleeding, which typically manifests a few hours following the procedure, exhibits a higher incidence among individuals with systemic disorders or those undergoing anticoagulant therapy. Post-extraction secondary haemorrhage, commonly associated with liver clots, typically manifests within the timeframe of 7 to 10 days following dental extraction. This complication is infrequently observed within the scope of dental practice [12].

Red, jelly-like clot rich in hemoglobin from erythrocytes within the clot is defined as a 'liver clot' or 'currant jelly clot.' A contributing factor to the development of liver clot is venous haemorrhage, characterized by a non-pulsatile quality and a less rapid flow rate [13]. The management of a "liver clot" involves the surgical intervention of clot removal, followed by the application of local hemostatic agents to control bleeding, and subsequently suturing the affected area [14]. In emergency situations, such as when a patient is experiencing pain, we can utilize soft tissue laser technology not only to remove blood clots but also to facilitate healing through the application of low-level laser therapy [15, 16].

It is crucial to conduct a comprehensive medical history review and pre-operative lab tests to identify any potential hemorrhagic disorders that could contribute to post-operative complications and delayed healing [16].

CONCLUSION

Postoperative complications following dental procedures are infrequent, yet it is crucial to identify and manage any adverse events that may occur. To effectively manage intraoperative and postoperative bleeding, it is essential to conduct a thorough evaluation of the patient beforehand. This includes obtaining a comprehensive medical and family history to identify any undetected bleeding disorders.

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