WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.453
Volume 13, Issue 13, 1026-1031. Case Study ISSN 2277–7105

LIVER CLOT- A RECONDITE PERIODONTAL RAMIFICATION

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Article Received on
15 May 2024,

Revised on 05 June 2024,
Accepted on 25 June 2024

DOI: 10.20959/wjpr202413-33049

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ABSTRACT

Periodontal disease is a chronic inflammatory conditions caused by the deposition of dental plaque on the tooth surface, which destroys the periodontal supporting structure and results in the loss of connective tissue attachment and alveolar bone. Periodontal flap surgery is a frequent therapeutic approach for exposing and correcting periodontal abnormalities for long-term periodontal health maintenance. Even though it's a common procedure, significant bleeding after surgery is quite rare as it involves primary closure of the soft tissues. There should be no complications following any surgical procedure. However, certain difficulties are preventable, while others are unavoidable under specific conditions. Here is a case of a thirty two - year-old systemically healthy female patient who presented with a rare occurrence of a "liver clot" or "currant jelly clot" following periodontal flap surgery. The liver clot that developed was part of the secondary hemorrhage that occurred after twenty four hours, interfering with the development of the physiologic blood

clot. The clot was removed with curettes, and the affected area was irrigated. After one week, the patient was recalled, and healing was good with no other complications.

KEYWORDS: Liver clot, currant jelly clot, periodontal surgery, hemorrhage, periodontal complication.

INTRODUCTION

Following periodontal surgery, bleeding is a common outcome that resolves shortly. It may vary from a small amount of bleeding at the site of surgery or traumatic injury to severe bleeding that could result in a fatal consequence. Significant bleeding after surgery is rare since it usually goes away on its own because of the primary closure of soft tissues after periodontal surgery. Persistent bleeding is usually related to oral surgery, especially when a tooth is extracted, leaving an open wound.[1]

Postoperative bleeding in healthy people is mostly caused by local factors that disrupt the blood clot, such as physical trauma to the surgical site from the tongue or other foreign objects. It is possible for salivary enzymes to break up the blood clot before granulation tissue begins to develop and organize.[2] Liver clot are extremely rare and can be seen after tooth extraction, even after post periodontal surgical procedure.[3]

This case report depicts a unique and rare case of the formation of a “liver clot” also known as a “currant jelly clot” after periodontal flap surgery.

CASE PRESENTATION

A thirty-two-year-old female patient reported to the Department of Periodontology in Tamilnadu Government Dental College, Chennai with the chief complaint of redness accompanied by pain in the gums. In addition, the patient complained of bleeding gums while brushing. Periodontal examination confirmed that the patient had stage two grade B periodontitis. The patient was systemically healthy and there was no history of any past illness such as a disorder associated with blood coagulation, liver disorder, prolonged intake of medication, or hospitalization. For this patient full-mouth periodontal flap surgery was planned after phase one therapy.

The patient underwent a routine blood investigation before the surgery and the values were found to be within the normal limits. Under local anesthesia (2% lidocaine with adrenaline 1:80,000) conventional flap surgery was performed in 13 and 14,15,16,17 regions. Full

thickness mucoperiosteal flap was elevated and thorough debridement and degranulation was performed. When hemostasis was achieved, the flap was restored to its original location and approximated with a 3-0 silk suture. Periodontal dressing was placed over the surgical site. Post-operative instructions were given to the patient. Instructions included avoiding chewing on the operated site for one day and the patient was advised to refrain from touching the surgical site, retracting the lip to view the surgical region and tooth brushing in the operated area for one week. She was prescribed antibiotics (Cap. Amoxicillin 500 mg TID), (Tab. Metronidazole 400 mg TID), and analgesics (Tab. Paracetamol 500 mg TID) for three days along with antimicrobial rinse (0.2% chlorhexidine gluconate twice a day for two weeks). After one week, the patient was asked to come back for suture removal and follow-up.

Post-Operative Ramification

The patient returned the following morning after flap surgery with a massive clot in relation to the buccal surface of the right upper first molar region (Figure 1). Clinical examination revealed that a dark red jelly-like pedunculated mass is firmly attached to the tooth. The mass was removed with a Gracey curette. Then the site was irrigated with a mixture of betadine and saline and finally pressure pack was applied. Hemostasis was achieved after the pressure pack was applied. The excised mass was diagnosed as a "liver clot" or "currant jelly clot'' (Figure 2). The patient was again recalled after one week for follow-up and suture removal (Figure 3 and Figure 4). The patient did not experience any more post-surgical complications.

Figure 1: A Dark Red, currant Jelly like Mass on upper right molar after periodontal flap surgery.

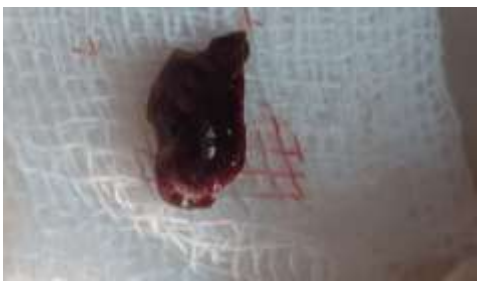

Figure 2: Liver clot in toto.

Figure 3: After one week post-operative picture.

Figure 4: After suture removal.

DISCUSSION

The definition of hemorrhage is blood escaping from blood vessels. Depending on the cause, it is characterized as primary, intermediate, and secondary hemorrhage. Primary hemorrhage occurs when blood vessels rupture during surgery.[4] Within twenty-four hours following surgery, intermediate hemorrhage happens when the pressure pack is withdrawn or as a result of the action of the vasoconstrictive agent dissipating. Secondary hemorrhage that occurs beyond twenty-four hours can be caused by an infection, foreign objects, bone graft, intrinsic trauma, or restorative dressing material. This can interfere with the development of a blood clot. The outcome might range from an aggressive oozing of blood that constantly fills the oral cavity to a liver clot to simply blood-tinged saliva that creates distress for the uninformed patient.[5,6]

"Liver clots" also known as "currant jelly clots" are described as slow-oozing, dark (venous) blood that is red and jelly-like. Liver clots are also rich in hemoglobin from erythrocytes within the clot.[7] It can also occur as a result of venous hemorrhage which may or may not be pulsing. It has been demonstrated that it is associated with inadequate fibrin clotting after mandibular third molar extraction. A biopsy of the liver clot showed that erythrocytes

encircled a fibrous band.[8] Liver clots can be removed with curettes or high-speed suctions. In most cases, sutures are not recommended. By using bio-stimulation, laser treatment can also be used to remove the blood clot and promote tissue healing.[9]

Excessive or uncontrolled bleeding can cause concern for patients and dentists as well, as it can cause interruptions in the surgical procedure, impair the healing of the wound, and enhance the risk of infection. Sutures should be used as much as possible during the primary closure of surgical wounds to ensure that the wound margins approximate closely. After the surgery, moist gauze has to be applied to the operative site for five to ten minutes at a moderate pressure. Vasoconstrictive drugs like epinephrine or pro-coagulants like collagen or thrombin may be used if the bleeding doesn't stop.[10]

CONCLUSION

Very few dental surgical procedures carry the risk of potentially fatal consequences. A number of factors need to be taken into account, such as meticulous planning, cautious surgical technique, understanding of the surgical anatomy, and awareness of potential complications following surgery. A part from the standard treatment approach (pressure, cold pack, various hemostatic medications, etc.), laser application is really effective. Dental practitioners should be educated to prevent and treat liver clots even if they are uncommon.

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