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RESEARCH ARTICLE

LIVER CLOT" IS IT AN ENTITY?

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ABSTRACT

Complications are the integral part of any minor and major oral surgical procedures but with a detailed and proper medical case history and consultation a majority of such complications can be avoided. We present here the management of post-operative bleeding after a simple tooth extraction performed by a local dentist who did not give any importance to a thorough clinical history taking procedure.

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INTRODUCTION

Complications are an integral part of any minor or major surgical procedures and can be broadly grouped as those related to bleeding and infection.The clinical implications of postoperative bleeding can range from continuous ooze to serious life threatening blood volume depletion, particularlyin patients who do not possess intact hemostatic ability. The following case report addresses the importance of history taking and management of a postoperative complication after a simple tooth extraction done by a local dentist.

Case report

A fifty five year old male reported to the department of Oral and Maxillofacial with a chief complaint of bleeding from the extraction socket of left maxillary second molar after its extraction by a local dentist a week ago. On intraoral examination, there was a dark red, jelly like pedunculated mass in the region of left maxillary second molar region extending from distal surface of first molar to mesial surface of third molar tooth involving depth of vestibule on buccal aspect and free gingival margin on palatal aspect. It was approximately 2.5x2 cm in size (Fig 1).

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There was mild bloody ooze from the margins of the clot with fetid odour. On occluding there was continuous trauma from the opposing tooth cusp on the jelly like mass. The patient was palor, and on extraoral examination, had mild ecchymosis appreciated in the region of left infraorbital region (Fig 2). Patient revealed history of prolonged bleeding from gingiva following oral prophylaxis two years ago. He had undergone a thoraco-abdominal aortic aneurysmal repair two years ago with a complicated postoperative bleed for five days for which he was in intensive care unit. He has been on anti-hypertensive drugs for the past ten years. Patient had no history of intake of anticoagulants or NSAIDS use prior to his extraction, though he has history of alcohol consumption for the past fifteen years. Hematological investigations revealed a normal haemogram. Ultrasound abdomen showed evidence of hepatomegaly with fatty liver. A diagnosis of "liver clot "or "currant jelly clot" was made on the basis of clinical picture. After medical consultation, patient was given vitamin K injection (10µmg)via the intramuscular route. The possibility of the presence of any part of the tooth left in the extraction socket was ruled out with the help of an OPG. Under strict aseptic conditions and local anesthesia, the clot and granulation tissue were curetted for any possibility of calculus or any foreign body followed by local irrigation using 1% povidone-iodine solution. Haemostasis was achieved using local pressure. Intra-alveolar oxidized cellulose (surgicel) was packed in the socket secured using sutures.

Bolster pack soaked with sterile haemocoagulase solution acted as an occlusive dressing. After thirty minutes of local pressure, oozing of blood was evident along mucosal margin which was controlled using electrocautery. Post operatively patient was prescribed Tab. Tranexamic acid, to be consumed by swish and swallow method. Patient was kept on intramuscular injection vitamin K (10µmg) once a day for five days, and injection Chromo stat thrice a day for three postoperative days. The patient was prescribed broad spectrum antibiotics and NSAIDS for five days. Patient was followed up with uneventful healing after 7 days.

DISCUSSION

Oral surgical procedures, particularly tooth extraction; can be associated with prolonged hemorrhage due to the nature of procedure resulting in an "open wound". Patients tend to touch the area of surgery with their tongue which may occasionally dislodge the blood clot and might cause negative pressure that causes suction of blood from that area. Finally, the salivary enzymes may cause lyses of the blood clot before it gets organized (Pertson *et al*., 1998). Primary, Intermediate or Secondary hemorrage from the extraction socket may result ranging from an aggressive oozing of blood that continuously fills the oral cavity, to a liver clot, to mere blood tinged saliva that causes alarm to the uninformed patient (Kruger, 1984). Complex series of proleolytic reactions known as classical cascade comprise of extrinsic, intrinsic and common pathways which ultimately give rise to formation of thrombin and transforming fibrinogen to fibrin resulting in the proper clot formation. Most of the plasma proteins and factors involved in hemostatic mechanism are synthesized in liver and depend on vitamin K for proper functioning (Pandya *et al*., 2012; Chacon *et al*., 2006). Our patient was diagnosed with "Liver Clot" based on the clinical history and examination. Liver clot or current jelly clot is defined as dark red, jelly- like clot that is rich in hemoglobin from erythrocytes within the clot and resembles a piece of liver- hence its name. Generally, this is the result of venous hemorrhage characterized by slow oozing of blood (Druckman, 2001; Leon *et al*., 2014). In our case it was present as disorganized clot. Its presence can prevent normal clotting and delays healing, thus should be carefully removed. Liver clots are generally removed by either high speed suction or a large curette. Authors have reported formation of liver clot as a postoperative complication after periodontal surgery which was later curetted followed by local pressure (Druckman, 2001; Leon *et al*., 2014). Blinder *et al* (2001) performed curettage of the extraction socket and achieved local hemostasis using gelatin sponge, tranexamic acid, soaked sterile gauze and sutures to treat postoperative bleeding without alteration of the antiplatelet regime before extraction.

They also concluded that the value of INR at the therapeutic dose did not influence the post-operative bleeding incidence (Blinder, 2011). Platlet Rich Plasma (PRP) gelhave been successfully used with minimal postoperative complications in patients on anticoagulant therapy with warfin and INR in the range of 1.5 to 3.PRP gel was preferred due to its autologous nature, mucosa adhesive property and cost effectiveness (Valle *et al*., 2003). In another study, authors recommended the use of Hemcon Dental Dressing (HDD) containing chitosan as local pressure dressing after extractions in patients without significant modification of anti platelet therapy and resulted in reduction in hospitalization, absence of infection and low rate of hemorrhagic complications. It acts by forming a dense viscous mass providing adhesion and primary seal with irregularities of the alveolar bone (Kale *et al*., 2012).

Formation of liver clot has been documented after removal of mandibular root stumps which was subsequently removed with curettage and local pressure aided with hemostatic drug Ethamsylate (500mg) (Hunasgi *et al*., 2015). It has been suggested that patients with potential hemostasis problems must be treated gently. Povidone-iodine has been used as antimicrobial, antiseptic and hemostypticagent (Kumar *et al*., 2006; Hashemi *et al*., 2015). Authors stated that homeostasis is probably due to the corrosive property of iodine and thickening and binding property of povidone. While iodine may cause chemical cauterization of tissues, povidone aids in clotting (Valle *et al*., 2003; Kale *et al*., 2012). In our case, the management was more extensive which could be attributed to the slightly compromised medical condition of the patient and delay in reporting after extraction. Lack of following postoperative instructions could too be one of the reasons. Patient denied complete medical and dental history taking by local practitioner before his tooth extraction though his tooth was extracted by a "closed extraction technique". This clinical condition has been documented in healthy young patients as well as medically compromised. Though the etiology of formation of liver clot is not clear but the importance of history taking and the importance of following proper postoperative instructions cannot be ignored to avoid majority of postoperative complications.

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