

“Liver Clot”: A Reactionary Haemorrhage-Case Report

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Abstracts: Reactionary haemorrhage associated with periodontal flap surgery is an unusual finding. Periodontal flap surgery is a common treatment modality used to allow the exposure and correction of periodontal defects for the long-term maintenance of periodontal health. Though being a routine procedure, significant post-surgical haemorrhage is very uncommon due to the primary closure of the soft tissues following surgeries. Here is a case of 44-year-old systemically healthy female patient reported with an unusual condition of the formation of a "liver clot" or "currant jelly clot" following periodontal flap surgery. [Bakutra G NJIRM 2015; 6(1):116-118]

Key Words: “Currant jelly clot”, haemorrhage, “liver clot”, periodontal surgery

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Introduction: Dental procedures, such as extractions and periodontal surgery, are associated with postoperative bleeding, which is generally self-limiting. In healthy patients the postoperative bleeding is mainly due to local causes, which dislodges the blood clot like physical disturbance of surgical area by tongue or any foreign body. Even salivary enzymes may lyse the blood clot before it gets organized and ingrowth of granulation tissue.¹

Case Report: A 44-year-old systemically healthy female reported with the complaint of bleeding gums and dull aching pain in the left upper back region of jaw since 2 months. Her medical history and history of any medication was non-significant. No adverse habits or tobacco use in any forms were reported.

Surgical Procedure: After 3 weeks of scaling and root planing, a periodontal flap surgery procedure in relation to 2nd quadrant was planned. Routine haematological investigations were done and all the values were found to be within normal limits with international normalized ratio (INR) of 1.02. No premedications were used. Under local anaesthesia (2% lignocaine HCl with adrenaline 1:80,000; LIGNOX 2% A), a conventional flap design was performed in the 2nd quadrant by giving an intra sulcular incision to reflect a full thickness flap.

After thorough debridement, the flap was replaced back to its original position and approximated

using 3-0 BBS suture to achieve primary closure. Duration of surgery was approximately 1 hour. Periodontal pack was not placed.

Haemostasis was obtained and post-operative instructions were given to the patient. Instructions included a warning not to manipulate the surgical site or attempt to retract the lip to visualize the surgical area and avoid tooth brushing in the operated area. She was prescribed with antibiotics (cap. amoxicillin 500 mg TID for 5 days), analgesics (tab. Paracetamol 500 mg + diclofenac sodium 50 mg TID for three days) along with antimicrobial rinse (0.2% chlorhexidine gluconate twice-a-day for 1 week). Patient was recalled after 1 week for suture removal and follow up.

Post-Surgical Squeal: Patient reported back to the department after 48 hours of flap surgery, with the complaint of thick jelly like mass formation on tooth surface in the left upper back region of jaw since 24 hours. On intra-oral examination there was a dark red, thick jelly like mass in the maxillary left second premolar region (Figure 1 and 2).

Clot was removed with curette and no haemorrhage was evident. The area was irrigated with povidone iodine solution. A diagnosis of “liver clot” or “currant jelly clot” was made based on clinical presentation. Patient was again recalled after 1 week for follow up and suture removal (Figure 3 and 4).

Discussion: Haemorrhage is defined as an escape of blood from blood vessels (the vascular compartment which contains approximately 5 percent of the total body fluid).² Based on the time of occurrence, haemorrhage can be classified as primary, reactionary and secondary. Primary haemorrhage occurs during time of surgery and is attributed to the cutting of the blood vessels.

Figure 1: A Dark Red, Thick Jelly like Mass on Maxillary Left Second Premolar (Buccal View)



Figure 2: A Dark Red, Thick Jelly like Mass on Maxillary Left Second Premolar (Occlusal View)



Reactionary haemorrhage refers to bleeding that occurs within 24 hours of surgery. The likelihood of this may be attributed to many factors, like; removal of pressure, dissipation of vasoconstrictive agents and relaxation of blood vessels. Secondary haemorrhage occurs after 24 hours of surgery and is frequently attributed to many factors, like; infection, intrinsic trauma, presence of foreign bodies, that may cause repeated, delayed organization of blood coagulum. The result may range from an aggressive oozing haemorrhage of blood that continuously fills the oral cavity, to a

liver clot, to mere blood-tinged saliva that causes alarm to the uninformed patient.^{2,3}

Figure 3: Post-Operative 1 Week Follow For Suture Removal



Figure 4: Post-Operative 1 Week Follow Immediately After Suture Removal



Figure 5: Extrinsic Pathway

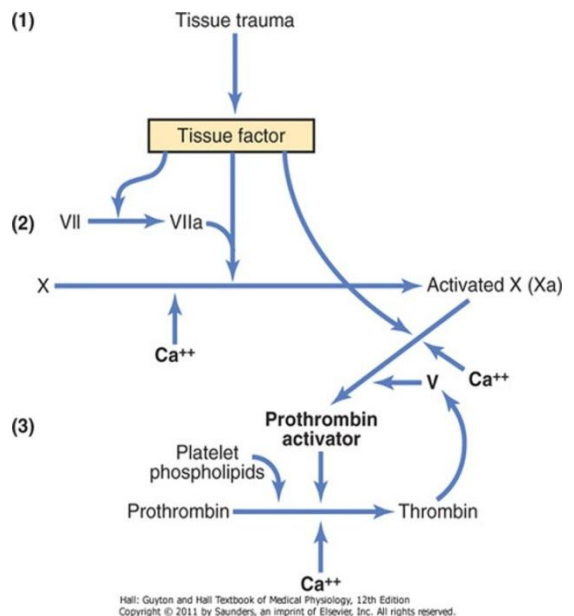
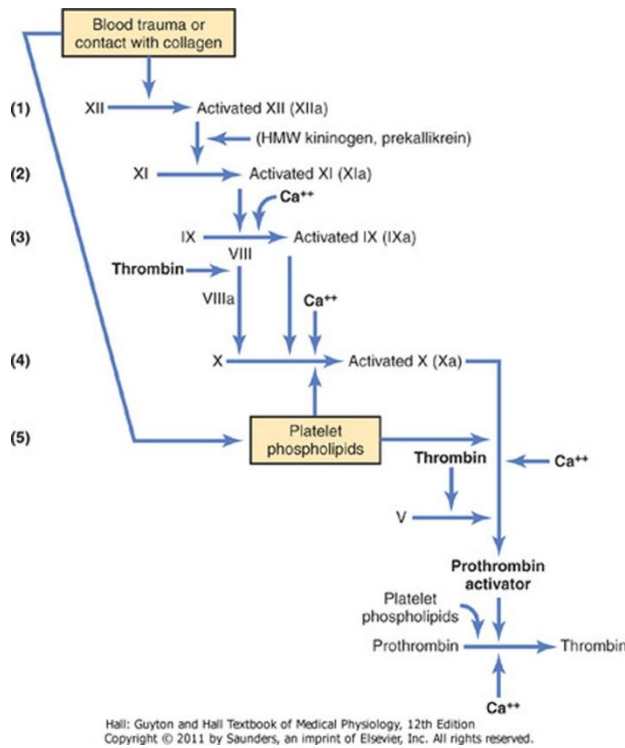


Figure 6: Intrinsic Pathway



“Liver clot” or “currant jelly clot” are defined as a red, jellylike clot that is rich in haemoglobin from erythrocytes within the clot. Another reason for the formation of a liver clot is venous haemorrhage, which may not have a pulsating quality. The flow will be slightly less rapid and there will be a darker red colour.² The above mentioned factors hamper blood clotting. The normal clotting mechanism is as described in the Figures 5 and 6.⁴ This cascade suggests that the mechanism is such that one factor will activate the following factor in a sequenced reaction resulting in formation of clot. The haemostatic action of vasoconstrictor must be weighed against the observation that the frequency of postoperative bleeding is higher and the healing of extraction socket is delayed when epinephrine is employed. This phenomenon may involve a rebound vasodilatation, possibly mediated by beta-adrenergic receptors.⁵

Liver clots are generally removed by either high speed suction or a large curette. Following removal of the clot, saline irrigation and direct pressure is applied to the exposed area. Rarely is sutures required.⁶

Conclusion: Prolonged or uncontrolled bleeding is distressing for both patients and clinicians, and can delay completion of the procedure, compromise wound healing and predispose to infection. Primary closure of surgical wounds should be maximized using adequate sutures to insure close adaptation of wound margins. Following the surgical procedure, moist gauze should be placed over the surgical site with moderate pressure for 5 to 10 minutes. If bleeding persists, vasoconstrictive substances such as epinephrine or pro-coagulants such as thrombin or collagen may be employed.⁷

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