





ORIGINAL RESEARCH PAPER	Dentistry
JELLY CLOT IN PEDIATRIC PATIENTS : A REVIEW WITH CASE REPORT	KEY WORDS:

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ABSTRACT	A frequent post-extraction complication that is typically connected to both intra- and trans-alveolar extractions is post-operative blood loss. The bleeding is primarily caused by venous hemorrhage, which is typically treated with sutures or pressure packs, occasionally the clot gets bigger, perhaps reaching a few centimeters in size. These clots are called "liver-clots" because they resemble liver tissues. The extent to which the blood stream is exposed to perivascular tissue factors determines the size of the clots. We have examined the potential mechanism of clot growth and the time-dependent movement of the clot in response to tissue variables, and we are reporting a case that acquired liver clots after surgery.[1]
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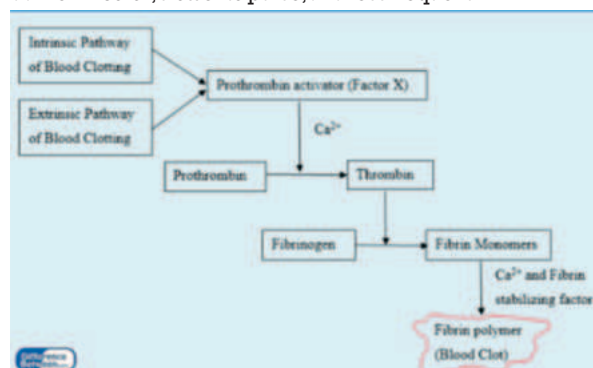
<p>INTRODUCTION</p> <p>Post-operative bleeding is a common complication that occurs with both intra- and transalveolar extractions. The bleeding is largely related to venous bleeds, which are normally treated by pressure pack or sutures. Increased bleeding may be due to increased vasculature and continual disruption of the wound, which is left to heal by secondary intention. Occasionally, the clot will expand in size and may stretch to the size of a few centimeters, which is known as "liver-clot" due to its similarities in appearance with liver tissues.^[1] The "liver clot" is an uncommon event that results from prolonged bleeding and abnormal coagulation. Venous hemorrhage, which is distinguished by gradually escaping red blood that has a dark pigmentation, can result in a hemoglobin-rich clot that resembles jelly in locations where pressure alone may not be able to stop the bleeding. The prevalence of liver clot in pediatric dentistry is extremely rare, found approximately 0.02-0.03% overall pediatric population after extraction of tooth^[2].</p> <p>The etiological factors which are related to liver clot are :- An inability to follow post-operative instructions - Patients are usually advised to avoid sucking motions, spitting, or using straws for the first few days after extraction to help keep the clot in place, not following the post operative instruction will lead formation of liver clot, another factor can be Dry Socket-If the clot dislodges or dissolves before the wound has healed, it can lead to a condition called dry socket (alveolar osteitis), which is painful and can delay healing, complication arising after extraction of over-retained deciduous teeth, infection, intrinsic trauma, the presence of a foreign body at the site are other causative factors for liver clot.^[3]</p> <p>The clinical features are, excessive pain 24 hours after extraction, clot formation resembling jelly at extraction site, bad breath or a foul odour coming from your mouth, bad taste in your mouth, severe jaw, ear and head pain, fever in rare cases. Treatment can be divided into two phases, Preventive Treatment for Minor Cases which includes Antibiotic prophylaxis for 5 days followed by analgesic and warm saline rinses,^[4] For Major Cases -Local anesthetic infiltration in the form of 2% lidocaine with 1:100,000 epinephrine is administered surrounding the affected area, and the gingival sulcus is curetted followed by irrigation with saline solution to remove any local irritants. The gingival sulcus is packed with a gelatin matrix and the gingival tissues was cauterized and excision of blood clot is done with Absorbable gelatin sponge [Surgigel]. Thus presenting A case report of 7 year old</p>	<p>boy having liver clot formation after extraction of primary mandibular first molar which is a rare phenomenon seen in pediatric patients.^[2]</p> <p>Case Report</p> <p>7-year-old male patient reported to the Department of Pediatric and preventive dentistry with of pain in lower left back tooth region, on IOPA examination reveals grossly decayed left primary first molar, extaction was done on the same day and after 3 day patients comes with complaint of pain and mass projecting out of the extracted socket and difficulty in chewing food and often bleeding on extraction site. On inspection, light brown coloured mass measuring about 1x1cm and soft in consistency, pedunculated to the extraction socket and non-tender on palpation. The case was managed by prescribing antibiotics and analgesic for 5 days and followed by chlorohexidine mouthwash and warm saline rinses for 7-8 times a day.</p> <p>Pretreatment Photographs</p>  <p>Mandibular occlusal view depicting liver clot post extraction of 74.</p> <p>Posttreatment Photographs</p> 
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Healing of Extraction site after 7 days of Antibiotic Regimen Band and loop irt 74

DISCUSSION

Excessive bleeding is common complication that arises after tooth extraction. A liver clot can occur as a result of extensive bleeding, as this case illustrates. The management of a liver clot involves curettage and high-volume suction removal, as well as irrigation and direct pressure to promote the formation of a well-organized blood coagulation and halt hemorrhagic or chronic bleeding. Platelets must be present for a natural blood clot to form, and they must interact with coagulation factors to produce a fibrin matrix.^[2]

Depending on the extent of the lesion, a coagulation cascade can start within 15 seconds to 2 minutes after a vascular wall is damaged. Within three to six minutes, a clot will fill the hole in the vessel wall. In its most basic form, hemorrhage is the result of blood escaping blood vessels. The sort of vessels that are severed—veins, arteries, or capillaries—will determine the nature of the bleeding. The vivid red color of the blood and the pulsing nature of the flow are characteristics of arterial bleeding. The characteristics of venous bleeding include darker in color, slower to pulse, and less frequent.



One potential explanation for the creation of the liver clot could be the non-pulsatile, dark-red venous hemorrhage. With no inherent enzymatic activity, tissue factor (TF) is a transmembrane protein that acts as the main activator of physiological hemostasis. It does this by binding to coagulation factor VII (FVII), encouraging its activation, and significantly increasing Factor VIIa's proteolytic activity. The subendothelial matrix's exposure on the activated platelet surface also starts an enzymatic response that leads to the creation of thrombin, which polymerizes the fibrin monomers to produce fibrous gel that stabilizes the clot. This process of subcutaneous matrix exposure also initiates coagulation. Uncertainty surrounds the onset of venous thrombosis; it could be caused by slow blood flow or stasis of deoxygenated blood, which could lead to tissue hypoxia. Trapped red blood cells, fibrin, and some platelets make up the majority of the clot, which can grow at a variable rate of up to a few centimeters. Many inflammatory stimuli can temporarily increase the expression of TF in monocytes, macrophages, and endothelial cells. However, in normal physiological settings, blood-contacting cells do not express TF. The temporal dynamics of the clot form would depend on how much collagen and tissue components were exposed to the blood. The length of exposure of the tissue factor is directly correlated with the size of the clot.^[1]

Thus, this case report represents the liver clot/ jelly clot identified in 7 year old boy 3 days after post extraction.

CONCLUSION

Despite being proven safe treatments, dental extractions and periodontal surgery can occasionally result in life-threatening bleeding complications because of underlying bleeding problems. Careful planning and precise surgical techniques should be taken into consideration in addition to

having a solid understanding of surgical anatomy and being aware of potential complications following surgery. Dentist helps in identifying these bleeding diseases as soon as possible, and treating the underlying abnormality quickly will benefit the patient.^[1]

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