

Severe Post-Extraction Bleeding: A Case Report

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INTRODUCTION

Pediatric dentists may encounter patients with various types of bleeding disorders. Initial recognition of these disorders plays a significant role in reducing potential complications and may also aid in diagnosis. Bleeding disorders can be classified as coagulation factor deficiencies, platelet disorders, vascular disorders, and fibrinolytic defects

Various complications can arise following the extraction of a primary tooth, the most common being excessive bleeding from the site of extraction. It is important to be aware of the potential complications, and how to best manage them.

HEMOPHILIA A/B

Hemophilia A and B are disorders caused by a missing or defective clotting protein, factor VIII and factor IX, respectively. Both are X-linked genetic disorders, and about 1/3 of cases have no previous family history in both diseases.

The disease severity is classified according to plasma level of FVIII or FIX activity, and ranges from mild to severe. Patients with mild and moderate hemophilia rarely experience spontaneous hemorrhages, but excessive bleeding can occur following trauma or invasive procedures. Patients with severe hemophilia frequently develop internal hemorrhages without apparent cause. Treatment includes replacing the missing clotting factors (replacement therapy) with either human plasma concentrates or recombinant clotting factors.

VON WILLEBRAND DISEASE

VWD is the most common congenital bleeding disorder, and results decreased von Willebrand factor, a clotting protein. vWF acts as a carrier for FVIII and aids in clot formation, VWD is classified as either mild, moderate, or severe. Treatment and management are similar to hemophilia A.

Symptoms include frequent nosebleeds that last longer than ten minutes, bleeding from cuts or injuries that lasts longer than ten minutes, bruising easily, heavy bleeding after surgery, heavy menstrual bleeding, and heavy bleeding after childbirth or miscarriage. VWD can be acquired through an autoimmune disease, such as lupus, or from heart disease or certain cancers.

CASE REPORT

8-year, 5-month female presenting to Hurley Emergency Department Health History: ASA I No medications, NKDA Family History: Mom has a history of heavy bleeding, no diagnosis reported Dental History: Patient receives regular care at an outside dental office

Presentation: Patient presented to the emergency department due to post-extraction bleeding. #K was extracted without complication on Monday. On Tuesday patient went about her day without complications. On Wednesday patient woke up and the extraction site was bleeding, and hemostasis could not be obtained. Bleeding continued from 7 a.m. to 3:10 p.m. Patient's dentist sent her to the ED.

EOE: No facial swelling, TMJ appears intact

IOE: severe post-extraction bleeding from site of #K. No swelling noted. No other primary teeth are missing. Moderate pain upon palpation along the left buccal vestibule. Bleeding was too heavy to determine the exact source within the socket that it was coming from, even after intense direct pressure.

Rx: 1 PA exposed. Radiograph reveals #K was completely extracted and no root tips or fragments remain

Treatment: Administered 34 mg of 2% lido with 1:100k epi to local infiltration of #K extraction site. Removed remaining gelfoam and curetted socket. Pieces of a liver clot were removed. Applied strong pressure using gauze. Post-extraction bleeding was minimally affected by these measures. Allowed patient to bite on gauze for about 25 minutes. Removed gauze and more reduction in bleeding was evident. Utilized cotton swabs to determine the source of the bleeding. Applied silver nitrate over the socket in areas of active bleeding. Hemostasis achieved



Patient's CBC, differentials, and von Willebrand factor all returned within normal limits. Patient's slightly declined mean corpuscular volume and hemoglobin were consistent with her prolonged bleeding. Iron and iron saturation were slightly declined, and the patient was diagnosed with mild anemia. Based on these results, the patient's prolonged bleeding was determined to be due to a liver clot rather than an underlying bleeding disorder. Recommended follow-up with PCP.

DENTAL MANAGEMENT

In pediatric patients with bleeding disorders, dental care requires careful planning and interdisciplinary coordination to minimize the risk of excessive bleeding. Common conditions like hemophilia or von Willebrand disease can complicate routine dental procedures, including cleanings, extractions, or even brushing and flossing. Preventive care is critical and should focus on rigorous oral hygiene, dietary counseling, and regular dental visits to reduce the need for invasive treatments. When procedures are necessary, pre-treatment with clotting factor replacement, antifibrinolytic agents, or coordination with a hematologist may be indicated to ensure safety. Education for both the child and caregivers is essential to promote safe, effective oral health practices.

Because a patient may not have a diagnosis, it is vital for pediatric dentists to be prepared to achieve hemostasis with direct pressure, hemostatic agents (Gelfoam, Surgicel, Collaplug), Topical Tranexamic Acid (TXA), and/or sutures as indicated.

THROMBOCYTOPENIA

Thrombocytopenia is a condition that occurs when the platelet count is too low It can be inherited or acquired. Symptoms include prolonged bleeding, petechiae, purpura, frequent nosebleeds, and blood in urine or stool. Treatment depends on the etiology and severity, and may include corticosteroids, blood/platelet transfusion, or splenectomy. Other platelet disorders include thrombocytosis (too many platelets) and platelet dysfunction.

LIVER CLOT

Liver clots are quite rare but can be seen post-periodontal surgeries, dental implant procedures, and even after routine extraction cases. They typically appear as a dark red jelly-like clot that contains erythrocytes that are rich in hemoglobin. They are distinguished by sluggish, oozing, dark (venous) bleeding. Incomplete fibrin clotting has been shown to be associated with formation of a liver clot

The size of the liver clot differs in patients based on the body's response and exposure of the tissue factors to the blood, which does not occur in normal situations. Risk factors for liver clot formation or prolonged bleeding include a lack of constricting vasculature, liver disease, antiplatelet agents and/or anticoagulants.

Treatment of a liver clot includes removal with high-volume suction and curettage, irrigation, and direct pressure. This allows a healthy organized blood coagulum to form to stop hemorrhagic or persistent bleeding.

CONCLUSION

Pediatric dental professionals performing extractions must conduct a full preoperative evaluation and must be prepared to deal with any difficulty or complication arising during and after the procedure. Quickly recognizing bleeding disorders and post-operative complications plays a significant role in patient care and management. Pediatric dentists may also aid in discovering undiagnosed bleeding disorders.

REFERENCES

AGD. www.agd.org/docs/default-source/self-instruction-(zendent)/zendent_nd17_abed.pdf?sfvrsn=0. Accessed 8 Apr. 2025. genomingspressming, training and second s Castaman G, Matino D. Hemophilia A and B: molecular and clinical similarities Department of Health and Human Services nces. Haematologica. 2019 Sep:104(9):1702-1709. doi: www.nhlbi.nih.gov/health/thrombocytopeniat:Accessed & Apr. 2025 ematol.2019.221093. Epub 2019 Aug & PMID: 31399527; PMCID: "Types of Inheritable Blood and Bleeding Disorders: NBDF." National Unprotect Point Strategy and Related Yoon DDS (2022) Disorders Found Accessed 8 Apr. Accessed 8 Apr.

Report." Annals of Maxillofacial Surgery, U.S. National Library of Medicine 2023, pmc prbi plm pib.pps/articles/PMC10883207/ rders Foundation, www.bleeding.org/bleedin issed 8 Apr. 2025. "What Are Platelet Disorders?" National Heart Lung and Blood Institute, U.S. Department of Health and Human Services wave while all and the service of the s ssed 8 Apr 2025