Post-Tonsillectomy Bleeding in a Patient with Crohn's Disease: Evaluating the Role of Coagulation Testing

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Purpose

Evaluate the role of preoperative coagulation testing in patients with inflammatory bowel disease prior to otolaryngologic procedures

Introduction

- Crohn's disease impacts many aspects of the clotting cascade[4]
- Increased platelet activity may contribute to a prothrombotic state[3]
- Malabsorption from intestinal inflammation can lead to nutrient deficiencies impacting clotting factor activation
- Medication use and nutritional status also affect bleeding risk[1]

Methods

- We report a case of a pediatric patient with Crohn's disease who experienced postoperative bleeding secondary to coagulopathy from vitamin K deficiency associated with malabsorption

Case

Preoperative

- 17-year-old boy with Crohn's disease, OSA, and recurrent tonsillitis planned for T&A with monopolar cautery
- Infliximab therapy held 1 month prior to surgery

Perioperative

- Uneventful T&A, hemostasis achieved with suction cautery
- Patient tolerated the procedure well and was discharged from PACU on day of surgery

Postoperative

- Patient vomited large volume clots on post-op day 4
- In ED, patient given fluid bolus and nebulized TXA
- Lab workup revealed elevated PT/INR of 14.9/1.31
- In OR, bleeding from right tonsillar fossa identified and controlled with suction cautery
- Hematology suggested Vitamin K malabsorption in the setting of Crohn's impaired clotting
- Patient given vitamin K, observed overnight without further bleeding, and discharged

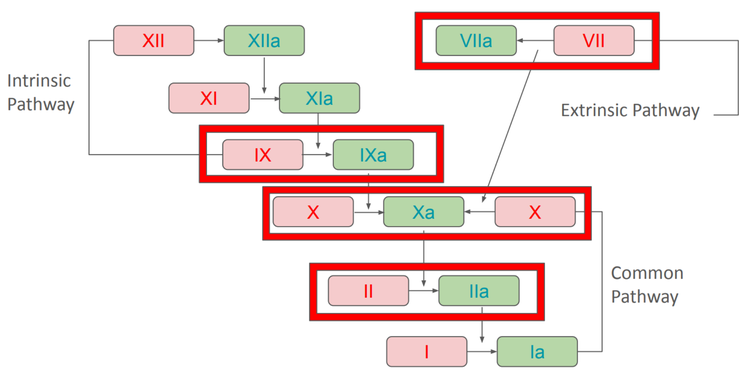

Figure 1. Impact of Crohn's Disease on the Clotting Cascade. Intestinal inflammation can lead to malabsorption of vitamin K. Vitamin K is important for **γ-**carboxylation and activation of clotting factors II, VII, IX, and X.

Discussion

- Crohn's disease can impact hemostasis[3,4]
- Existing guidelines for perioperative management of patients with IBD do not specify routine checking of coagulation profiles [2,5]

Future Directions

- Surgeons should consider checking coagulation profiles in collaboration with primary care, hematology, or GI in patients with IBD
- In the event of post-op bleeding, consider treatment with Vitamin K in the setting of elevated PT/INR

Sources

1. Berney, SM. (2008a). Risk Factors for Surgical Site Infections and Other Complications in Elective Surgery in Patients with Rheumatoid Arthritis with Special Attention for Anti-Tumor Necrosis Factor: A Large Retrospective Study. Yearb Med, 2008, 12–14. https://doi.org/10.1016/S0084-3873(08)79114-4
2. Cohen, BL., Lincango, E., & Holubar, SD. (2023). How to Manage Targeted Immune Suppressants (Biologics and Oral Small-molecule Drugs) Perioperatively for Inflammatory Bowel Disease and non-Inflammatory Bowel Disease surgery. Clin Gastroenterol Hepatol, 21(5), 1148-1151.e1. https://doi.org/10.1016/j.cgh.2023.01.042
3. De Laffolie, J. et al. (2022). Occurrence of Thromboembolism in Paediatric Patients With Inflammatory Bowel Disease: Data From the CEDATA-GPGE Registry. *Fped*, *10*, 883183. https://doi.org/10.3389/fped.2022.883183
4. Dolapcioglu, C, et al. (2014). Coagulation parameters in inflammatory bowel disease. Int J Clin Exp Med, *7*(5), 1442–1448.
5. Ruemmele, F. M. et al. (2014). Consensus guidelines of ECCO/ESPGHAN on the medical management of pediatric Crohn's disease. J Crohns Colitis, *8*(10), 1179–1207. https://doi.org/10.1016/j.crohns.2014.04.005