



An approach to regional anesthesia in a patient presenting with Hemophilia C: A case report

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Introduction

Hemophilia C is a rare blood disorder caused by a deficiency of coagulation factor XI that can present as an increased aPTT level and abnormal bleeding after trauma or surgery. We report on the management and treatment planning of a 34-year-old patient with severe Factor XI deficiency who presented for left ankle tibiotalar joint fusion and underwent regional anesthesia for post-operative pain control.

Materials and Methods

Literature review exploring cases of regional anesthesia in Hemophilia C patients was conducted. This case report does not contain any patient identifiable information, therefore is exempt from IRB review as per Colorado Multiple Institutional Review board (COMIRB) policy.

Case Report

A 34-year-old female with past medical history of post-traumatic osteoarthritis, morbid obesity (BMI 45), daily marijuana use, and severe hemophilia C (Factor XI level 11%, with normal range being 69-152%) presented for left ankle tibiotalar joint fusion. The patient was followed by hematology who recommended 5 units of FFP and 1g of TXA prior to the surgery. Further recommendations included continuing the IV TXA Q8H and when appropriate, switching to 1300mg oral TXA TID through post-operative day 10. This protocol worked for her previous surgeries, however she struggled with postoperative pain control. Therefore, Acute Pain Service was consulted.

Following FFP and TXA administration, ultrasound guided popliteal and adductor canal single shot blocks performed using 22-gauge needle and 30cc total of 0.5% bupivacaine. No complications were noted. The block wore off the following day and the patient was discharged on post-operative day 2.

Main Takeaways

- A case report illustrating successful **peripheral nerve blocks** (popliteal and adductor canal) for ankle surgery in a patient with history of **severe Hemophilia C** aka Factor XI deficiency
- Given paucity of data and lack of established guidelines, the **best approach** to formulating an anesthetic plan is **multidisciplinary**, involving both hematology and anesthesiology
- Acquire a **detailed bleeding history** and methods used in prior surgical procedures
- Establish **risks and benefits** of peripheral nerve blocks and neuraxial anesthesia with the patient
- **Utilization of FFP and/or TXA**, among others for adequate bleeding prophylaxis

Discussion

- Factor XI is responsible for sustaining the fibrin clot and combating fibrinolysis in the intrinsic pathway of the blood coagulation cascade
- Unlike Hemophilia A and B, the factor levels do not correlate with tendency to bleed
- Various guidelines from around the world recommend usage of FFP, concentrated Factor XI, TXA, and desmopressin for Hemophilia C patients prior to undergoing surgery
- ASRA does not currently have guidelines for regional anesthesia in patients with clotting factor deficiencies
- Isolated case reports have shown success with peripheral nerve blocks and neuraxial anesthesia after various methods including serial aPTTs and FFP/TXA administration

Resources

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