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Anesthetic management of a term parturient with congenital hypofibrinogenemia for cesarean delivery

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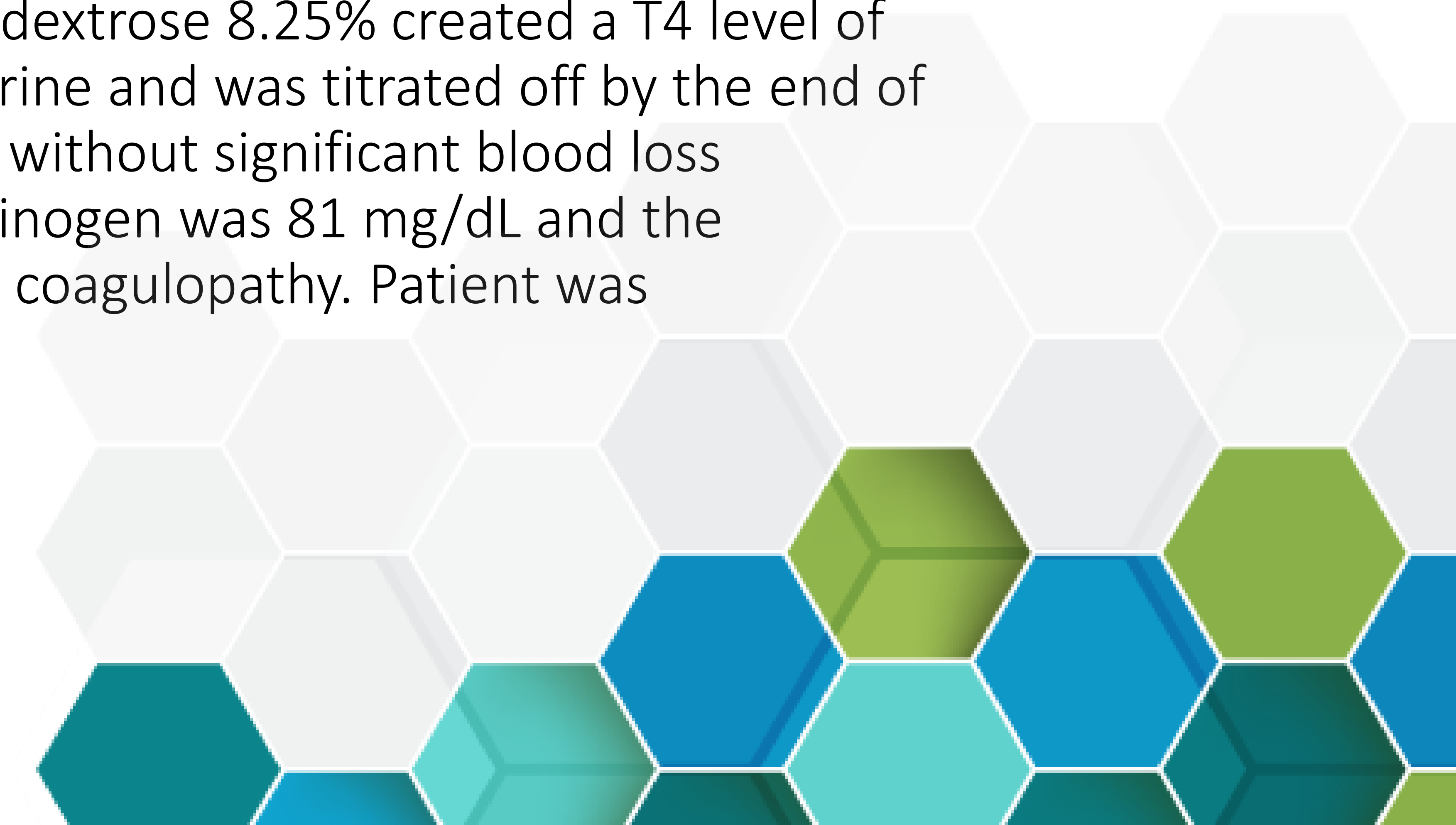
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Case Report

A 33 year-old G2P1 female at 40 weeks gestation presented to labor and delivery for an elective repeat cesarean section with a past medical history of asymptomatic idiopathic intracranial hypertension. Previous cesarean section was due to placental abruption and was undertaken emergently under general anesthesia without anesthetic complications. Patient has allergies to lysine which results in anaphylaxis, latex and amoxicillin.

At 27 weeks gestation, the patient tripped and fell onto her hands and knees without hitting her abdomen. Non-stress test following the fall was reactive and reassuring with fetal heart rate baseline of 150 bpm with moderate variability and accelerations, without decelerations or contractions. She reported good fetal movement and no vaginal bleeding or loss of fluid. Labs were significant for fibrinogen of 87 mg/dL. Fibrinogen was repeated at 29 weeks gestation and was 87 mg/dL. The day before admission for delivery fibrinogen was 89 mg/dL with hemoglobin of 13.4, platelet count of 258k, PT 11.9, PTT 26.7 and INR 1.0. Rotational thromboelastometry was collected prior to cesarean section and was normal. Hematology was consulted and recommended cryoprecipitate transfusion only in the event of significant bleeding.

Neuraxial anesthesia was obtained using a 25g 3.5 inch Pencan spinal needle in the midline, palpated at the L3-4 interspace, with clear CSF. Intrathecal injection of 15mcg fentanyl, 150mcg morphine, and 1.6 ml bupivacaine 0.75% with dextrose 8.25% created a T4 level of anesthesia which was adequate throughout surgery. Blood pressure was supported with phenylephrine and was titrated off by the end of surgery. There was an estimated blood loss of 800cc and patient remained hemodynamically stable without significant blood loss postoperatively. The patient did not receive any blood products during her stay. Postoperatively fibrinogen was 81 mg/dL and the following day was 85 mg/dL. ROTEM was not repeated as there were no clinical signs of bleeding or coagulopathy. Patient was discharged on post-operative day 2 without complications.



Discussion

Hypofibrinogenemia in pregnancy creates a complex situation that the anesthesiologist must be aware of. The risk of peripartum hemorrhage, placental abruption, and epidural or spinal hematoma must be considered when caring for these patients. Clinical signs of acute blood loss, lab values demonstrating hypofibrinogenemia in pregnancy, availability of cryoprecipitate, and abnormal coagulation studies, such as viscoelastic tests to guide management. Neuraxial anesthesia was considered favorable over the well-known risks of general anesthesia in pregnancy, as the patient's fibrinogen was consistently low throughout pregnancy combined with normal coagulation studies.

References

- Cai H. Congenital hypofibrinogenemia in pregnancy: a report of 11 cases. Blood Coagulation and Fibrinolysis 2018, 29:155–159.
- de Moerloose P, Casini A, Neerman-Arbez M. Congenital fibrinogen disorders: an update. Semin Thromb Hemost 2013; 39:585–595.

