



Transfusion Exclusion with Dwindling Perfusion

Management of Postpartum Hemorrhage and Severe Anemia
in a Jehovah's Witness Patient

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Introduction

Postpartum Hemorrhage

- Contributes to 25% of worldwide maternal deaths
- Contributes to 12% of American maternal deaths
- In the US, about 12% of deliveries result in blood transfusion

Jehovah's Witnesses

- About 1 million members in US
- Refusal of blood products based on Bible verses
- May accept fractionates such as albumin
- Cell saver often accepted



Case Report

The Patient

- 36 year-old G1P0 for induction of labor at term
- Hemoglobin (Hb) 13.9 g/dL on admission
- Would accept albumin and cell saver
- Two days of labor → arrest of dilation, fetal intolerance

Cesarean Delivery

- Labor epidural converted to surgical anesthetic
- Uterine atony and hemorrhage treated with oxytocin, tranexamic acid, and methergine
- Estimated blood loss (EBL) 1.4L
- 200mL of cell saver returned

Immediately Post Cesarean Delivery

- Persistently hypotensive
- Additional IV access obtained
- IV pressors initiated
- Ultrasound revealed recurrent uterine atony with ongoing hemorrhage
- Additional uterotonics given
- Decision to return to operating room
- Firmly, clearly refused transfusion

Emergent Hysterectomy

- General anesthesia induced
- Arterial line and central line placed
- Received 500mL of 5% albumin and 2L crystalloid
- EBL 1.5L - Not enough recovered for cell saver
- Urgent ethics consultation confirmed duty to abide by patient's wishes
- Immediate postoperative labs:
 - Hb 4.7 g/dL, INR 1.7, Fibrinogen 201 mg/dL

Post-Operative Management

- Extubated in ICU within several hours
- Daily IV iron, erythropoietin, vitamin B
- Phlebotomy minimized, Hb 2.2 g/dL on POD1
- Unable to tolerate hyperbaric oxygen therapy
- Declined Hb-based oxygen carrier therapy
- Enoxaparin for VTE prophylaxis
- No evidence of end organ injury
- Discharged home on POD13 with Hb 7.5 g/dL



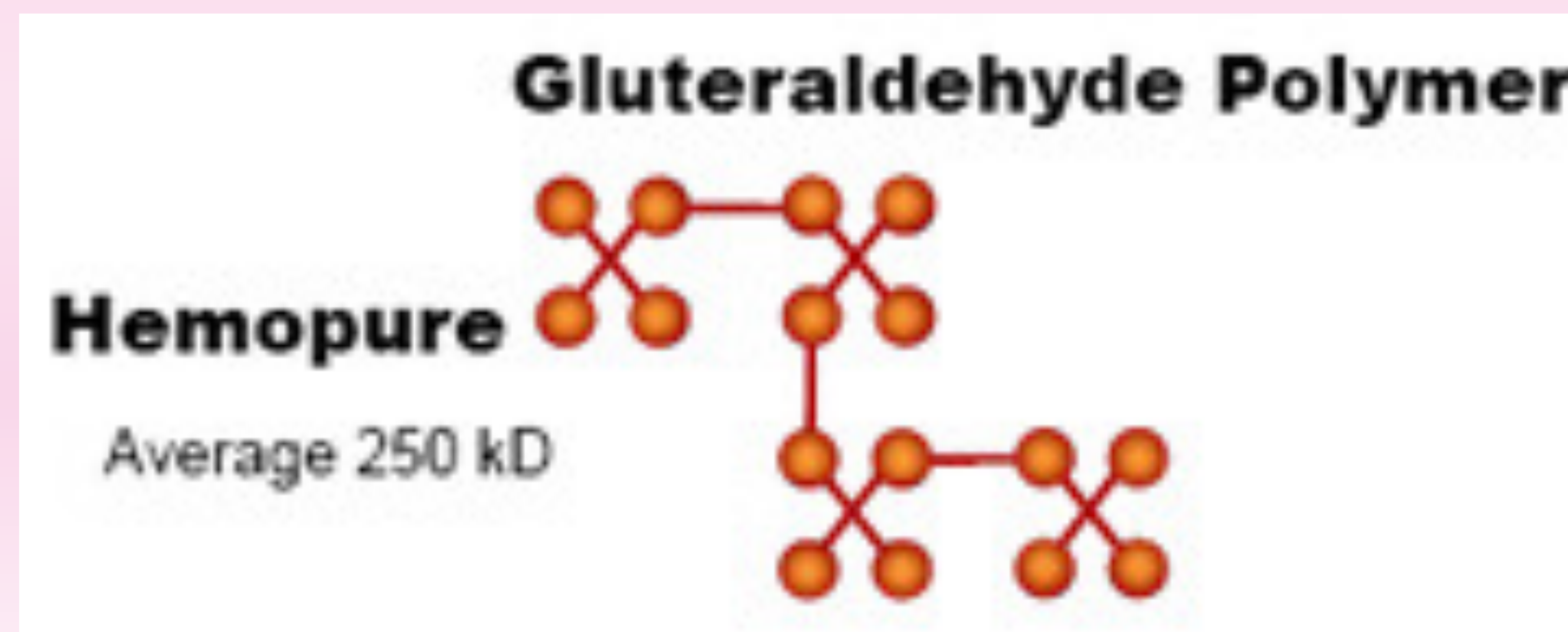
Discussion

Jehovah's Witness OB Patients

- Pre-delivery consultation
- Clear documentation
- Discuss blood products individually
- Discuss use of cell saver
 - Concern for amniotic fluid embolism → risks shown to parallel those of the general population
- Prompt recognition and aggressive PPH management

Jehovah's Witness Severe Hemorrhage

- Use whatever products the patient will accept
- Avoid hemodilution, especially of clotting factors
- Monitor volume status and evidence of end organ damage
- Consider intubation and paralysis
- Consider Hb-based oxygen carriers, hyperbaric oxygen therapy



Overall Takeaways

Contributions to patient's ability to tolerate such substantial blood loss:

- **Prompt recognition and treatment of underlying cause**
- **Physiologic changes with pregnancy**
- **Baseline health**

Importance of counseling and clear documentation for Jehovah witness parturients

References

1. Evensen A, Anderson JM, Fontaine P. Postpartum Hemorrhage: Prevention and Treatment. Am Fam Physician. 2017 Apr 1;95(7):442-449. PMID: 28409600.
2. Reale SC, Easter SR, Xu X, Bateman BT, Farber MK. Trends in Postpartum Hemorrhage in the United States From 2010 to 2014. Anesth Analg. 2020 May;130(5):e119-e122. doi: 10.1213/ANE.0000000000004424. PMID: 31567319.
3. Zeybek B, Childress AM, Kilic GS, Phelps JY, Pacheco LD, Carter MA, Borahay MA. Management of the Jehovah's Witness in Obstetrics and Gynecology: A Comprehensive Medical, Ethical, and Legal Approach. Obstet Gynecol Surv. 2016 Aug;71(8):488-500. doi: 10.1097/OGX.0000000000000343. PMID: 27526872; PMCID: PMC4991563.
4. Goucher H, Wong CA, Patel SK, Toledo P. Cell Salvage in Obstetrics. Anesth Analg. 2015 Aug;121(2):465-8. doi: 10.1213/ANE.0000000000000786. PMID: 26197375.