Spinal Anesthesia for Cesarean Section Delivery in a Primigravida with Type 3 Von Willebrand Disease

Hayley Turnbow DO, Neva Lemoine MD, Ashley Boerrigter MD, James Damron MD

Department of Anesthesiology
Perioperative, Critical Care
and Pain Medicine

BACKGROUND

Type 3 Von Willebrand Disease (VWD)

- The most rare and severe form of VWD
- Undetectable or absent Von Willebrand Factor (VWF)
- Extremely low Factor VIII (FVIII) levels

Epidemiology

- Affects 1-5 per 1,000,000 people
- Autosomal recessive or codominant inheritance[1]

Treatment

- Factor replacement therapy[2]

https://www.humate-p.com/hcp/about-humate-p

SOAP
Society for Obstetric
Anesthesia and Perinatology

Spinal Anesthesia for Cesarean Section Delivery in a Primigravida with Type 3 Von Willebrand Disease

Hayley Turnbow DO, Neva Lemoine MD, Ashley Boerrigter MD, James Damron MD

Department of Anesthesiology
Perioperative, Critical Care
and Pain Medicine

CASE

Patient

- 21 y/o G1P0 @ 37w

WBC Count 3.70 - 10.30 10*3/uL	12.81 ^
RBC Count 3.90 - 5.20 10*6/uL	3.95
HGB 11.2 - 15.7 g/dL	11.6
HCT 34.0 - 45.0 %	34.2
Platelet Count 155 - 369 10*3/uL	322

Medical History

- Type 3 VWD
  - Antihemophilic factor-VWF infusions 3x per week

R, Lysis 4.6 - 9.1 min	6.2
MA, Rapid, Lysis 52.0 - 70.0 mm	68.1
MA, Fibrinogen, Lysis 15.0 - 32.0 mm	29.8
LY30 0.0 - 2.6 %	0.5

Delivery Planning

- Obstetrical anesthesia, hematology, MFM, lab personnel, and blood bank involved
- Planned pCS under spinal
- Pre-delivery Antihemophilic factor-VWF infusion given
- VWF antigen and FVIII activity restored to 144% and 152%, respectively
- TEG & CBC unremarkable
- Two large-bore PIVs
- Blood products available

Delivery

- Atraumatic uncomplicated spinal block utilizing ultrasound
- Healthy infant delivered
- Prophylactic oxytocin and IM methylergonovine
- QBL 711 mL

vWF Antigen 50 - 160 %	144.0
Factor VIII Activity 56 - 191 %	152

Post-Delivery

- Uneventful recovery
  - Discharged on POD #5
  - 7-day TXA course
- Uterine dehiscence 1-month following delivery
  - Managed conservatively with RBC transfusion
  - Discharged 4 days later

SOAP Society for Obstetric Anesthesia and Perinatology

Spinal Anesthesia for Cesarean Section Delivery in a Primigravida with Type 3 Von Willebrand Disease

Hayley Turnbow DO, Neva Lemoine MD, Ashley Boerrigter MD, James Damron MD

Department of Anesthesiology
Perioperative, Critical Care
and Pain Medicine

TEACHING POINTS

VWD patients are sometimes denied neuraxial anesthesia

Limited data regarding neuraxial use in Type 3 VWD

Previous United Kingdom guidelines recommend against neuraxial in Type 3 VWD[3]

Previous case report demonstrates uncomplicated spinal anesthesia in a woman with Type 3 VWD for two C/S deliveries[4]

Hematology literature supports normalization of neuraxial risk with factor restoration to > 50%[5]

This case demonstrates another safe, uncomplicated use of spinal anesthesia

Multidisciplinary approach for advanced care coordination

References

SOAP Society for Obstetric Anesthesia and Perinatology