Hemolytic transfusion reaction in a patient with anti-Vel antibodies during a Cesarean hysterectomy

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29 year-old G10P6 at 25+3 weeks
Placenta previa and placenta accreta
Positive antibody screen
- **Difficult crossmatch underway**
- **Cold agglutinins**

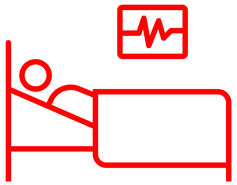
Sudden onset bleeding
- **Emergency Cesarean hysterectomy**

Intraoperative bleeding
- **Type-specific MTG**

Dark red urine
Hypotension
Surgical bleeding
Suspected DIC

Drapes removed
Rash on face, trunk and legs
Worsening hemodynamics
Hemolytic transfusion reaction

ICU



Identification of allo-antibody in ICU
Anti-Vel antibody

Nation-wide search for Vel-negative compatible pRBCs
2 units sent from Kentucky to arrive within 24 hours

Severe anemia in ICU
Hgb 3.6 g/dL

Ongoing DIC
IR embolization of right uterine artery

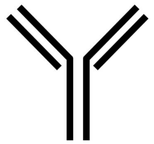
Acute renal failure- IHD
Pigment nephropathy
Cr from 0.36 → 1.4 mg/dL

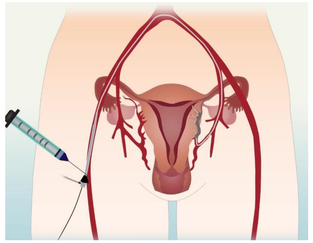
Total 8 liquid + 8 frozen units imported from across the USA

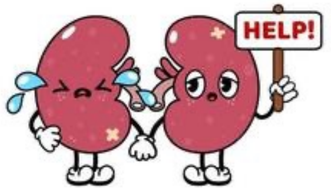
DIC resolved
Hgb ↑ 7.6 g/dL after 6 compatible pRBC units

POD # 11- transfer out of ICU
Total 9 units of Vel-negative compatible pRBCs transfused→ Hgb 8.9 g/dL

POD #17- Discharged home







Vel antigen and anti-Vel antibody

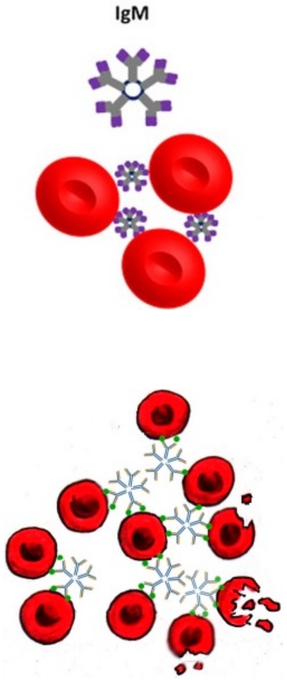
- **1:4000 Vel-negative** individuals (higher in Scandinavia)
- Complement-binding **IgM antibody**

Alloimmunization

- **After transfusion or exposure during pregnancy**
- Non-ABO reaction causing **acute intravascular hemolysis**

Identification

- Patient plasma mixed with frozen rare reagent cells (Vel- negative)



'Kell KILLS'

'Vel is a VILLAIN'

Summary

Emergency Cesarean hysterectomy requiring transfusion for life-threatening bleeding

Patient with rare allo-antibody

Transfusion→ DIC with superimposed acute hemolytic transfusion reaction

Cessation of transfusion, supportive therapy

Non-ABO hemolytic transfusion reactions are rare, but life threatening