Bleeding from the Epidural Catheter Site:

An Unusual Presentation of Disseminated Intravascular Coagulation Secondary to Placental Abruption

Josianna Schwan, MD; Neil S Kalariya, MD; Gillian Abir MBChB, FRCA

Stanford University School of Medicine, Department of Anesthesiology, Pain and Perioperative Medicine, Palo Alto, CA

Introduction

- The prevalence of placental abruption in the United States is 7-12 per 1000 pregnancies[1]
- Clinical criteria used to diagnose placental abruption include:
  - Evidence of retroplacental clot(s);
  - Abruption diagnosed on prenatal ultrasound
  - Vaginal bleeding accompanied with non-reassuring fetal status or uterine hypertonicity[2]
- Acute disseminated intravascular coagulation (DIC) is associated with placental abruption
  - Risk is highest when there is large placental detachment which can cause fetal death[3]
- We report a case of unanticipated and rapid-onset DIC in a laboring patient secondary to undiagnosed placental abruption

Figure 1: INR and Fibrinogen Levels during and after Resuscitation

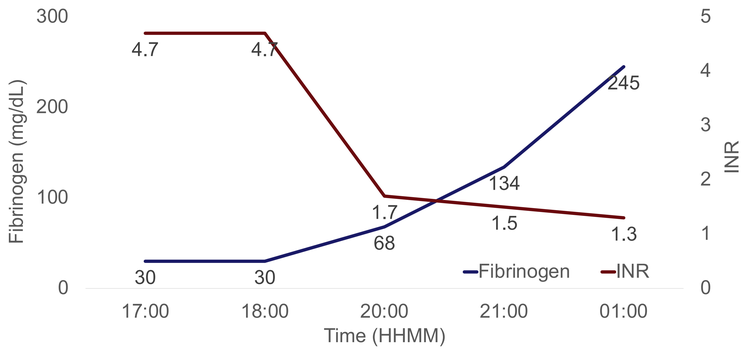

Figure 1: *Initial labs showed severe coagulopathy, with a critically high INR of 4.7 and an undetectable fibrinogen level - with active transfusion and resuscitation, labs eventually normalized*

Case Description

A 40 year-old G5P1 underwent induction of labor due to advanced maternal age and post-term dates (40^{+3} weeks gestational age) following an uncomplicated pregnancy

00:00 Admission & Induction
- 00:09 Epidural placed with adequate analgesia
- Oxytocin started, artificial rupture of membranes
- 15:15 Diagnosed with chorioamnionitis and started on antibiotics

17:00 Initial Concerns for Coagulopathy
- Bleeding noted from epidural site (50-100cc) and patient noted to have epistaxis
  - Epidural site re-dressed
  - DIC laboratory panel sent, 1g tranexamic acid administered at 18:25
- Vaginal delivery at 18:30, multiple vaginal clots noted, placenta delivered with evidence of abruption

18:30 Postpartum Hemorrhage
- Brisk vaginal bleeding noted after delivery of placenta
- Oxytocin, methylergonovine, and carboprost administered, massive transfusion protocol (MTP) activated
- Bakri balloon placed and vaginal laceration sutured
- 2g fibrinogen concentrate and 2 units fresh frozen plasma (FFP) administered

19:00 Management & Resuscitation
- Arterial line placed, additional IV access obtained
- Second MTP activated, additional 4 units red blood cells, 4 units FFP, 2 packs platelets–infused via rapid transfusion device
- 2g fibrinogen concentrate administered
- Intubated
- Misoprostol, second doses of carboprost and methylergonovine administered
- Bleeding controlled (EBL 2.5L), labs normalizing uneventful transfer to the intensive care unit

References

1) Ananth CV et al. PLoS One. 2015;10:e0125246
2) Elsasser DA et al. Eur J Obstet Gynecol Reprod Biol. 2010;148:125-30
3) Oyelese Y et al. Obstet Gynecol. 2006;108:1005-16
4) https://safehealthcareforeverywoman.org/patient-safety-bundles/

Outcomes and Conclusion

- Patient remained hemodynamically stable throughout resuscitation
- Transferred to the intensive care unit, extubated after 6 h, did not require any further transfusion
- Discharged home on postpartum day 3
- Key Learning Points:
  - DIC can present with spontaneous bruising or active bleeding from any invasive site and/or from any mucosal surface
  - Any abnormal bleeding encountered in a pregnant patient should be immediately evaluated
  - Multidisciplinary team involvement is critical to establish immediate treatment (and delivery planning if indicated), and to implement active resuscitation plus escalation of care[4]

Figure 2: Thromboelastogram (TEG)

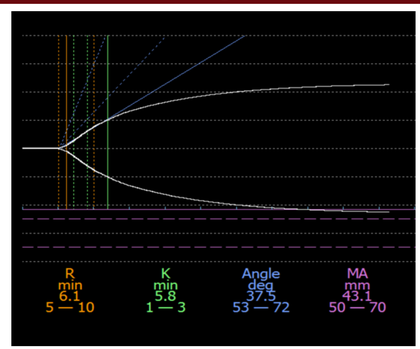

Figure 2: *Coagulopathic TEG drawn during active resuscitation demonstrated normal R time, prolonged K, decreased angle, and decreased MA indicating continued coagulopathy*