Utility of ROTEM for Management of Patient with Suspected Concealed Abruption in DIC

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Background

- > 22 year old female G1P0 at 37w1d with dichorionic diamniotic twins
- Experiencing abdominal pain, dizziness, nausea and vomiting at home while sitting in bathroom, admitted to L&D for CAT 2 fetal tracing
- > Foley placement showed frank red urine
- Labs (coags, fibrinogen, CBC) sent to the main hospital lab and a STAT ABG and ROTEM test sent
 - Working diagnosis of DIC/placental abruption
- Moved patient to the OR for monitoring (vitals, labs, FHR) and resuscitation
 - Large bore IV access (x2), a-line placed in OR
 - Prepared for stat C-section if fetal or maternal distress during monitoring
- > ROTEM and ABG sent in approx. 30 minute intervals during resuscitation
 - 2 hrs of transfusion with 4 units of PRBCs, 8 units FFP, 2 units platelets, 3 units cryo, 4 g fibrinogen concentrate, 2 g TXA, 2.5 g CaCl, insulin 10 U





Intraoperative and Postoperative Course

- ➢ Patient begins experiencing shortness of breath → OB and Anesthesia decide to convert to GETA via RSI and deliver twins via STAT C section
 - OB team confirmed abruption
- Pitocin, methergine, hemabate x 2 given, and hemostasis achieved
 - End of case: EBL 2.5 L and QBL 3 L
- Patient VSS throughout intra-op course and was transferred to the ICU post-op
 - Bleeding and clots (~300 mL) noted from the vagina in ICU
 - OB team place a Jada device
 - ROTEM showed some persistent coagulopathy
 - Additional unit of cryo, hemabate, and platelets given
 - POD#0 patient extubated, Jada removed
 - POD#1 patient transferred to medical floor and treated with suspected endometritis
 - POD#4 antibiotics discontinued and patient discharged





Teaching Points

- > emphasizes the improved quality of care provided to a patient in DIC with the early utilization of ROTEM
- > Pre-delivery planning with agreement on:
 - Labs needed, timing of lab results, frequency of labs drawn
 - Close monitoring needed (a-line, FHR monitoring)
 - Reliable peripheral access (resuscitation)
 - Arterial access (labs, hemodynamic stability)
 - Mode/location of delivery

➤ Consider:

- Timing of lab results (hospital labs vs STAT labs like ABG and ROTEM)
 - extremely low fibrinogen did not result until 2 hours after case start
- Location of monitoring (triage vs labor room vs OR)
- Emergency contingencies (preparedness for conversion to GETA)
- Interdisciplinary collaboration

References

1. Gando, S., et al. (2006). "The impact of disseminated intravascular coagulation on the clinical outcome of patients." Critical Care Medicine.

