Use of Thromboelastogram in Case of Placenta Previa with DIC

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With a greater number of cesarean sections (CS) being performed today, the incidence of placental disorders is rapidly escalating. Morbidly adherent placentation leading to uncontrollable hemorrhage is now the primary indication for peripartum hysterectomy [1]. In the face of massive hemorrhage, coagulopathy may be inevitable. Routine laboratory tests may not adequately reflect the dynamic status of hemostasis and are argued to be poor predictors of bleeding risk [2]. Several experts have advocated the use of thromboelastography in managing intraoperative bleeding and guiding the use of transfusion products.

We report a case in which the latter was used to guide management for a patient with placenta percreta who developed severe intraoperative coagulopathy. A 38 yr old G8P5024, with a history of 3 previous CS, presented at 32 wks gestation with a diagnosis of placenta previa and suspected invasion of the urinary bladder, based on ultrasound and MRI. She was scheduled for cystoscopy and bilateral ureteral stent placement, followed by cesarean hysterectomy under general anesthesia. The uterus was found to be distinctly adherent to the posterior wall of the bladder, and intentional cystotomy was performed revealing posterior bladder invasion. Massive hemorrhage and coagulopathy ensued. Serial thromboelastograms, which at first revealed no sign of clot formation, were used to guide our transfusion decisions. EBL was 9L, and she ultimately received 17 units of PRBC’s, 16 units of FFP, 15 units of platelets, 10 units of cryoprecipitate and 6L of crystalloid.

Antepartum diagnosis and careful planning in cases of placenta percreta is imperative and should involve a multidisciplinary team approach. By providing the ability to comprehensively evaluate the hemodynamic picture (coagulation factors, platelet function and fibrinolysis), use of thromboelastography should be considered when massive hemorrhage is anticipated.

References:
Intra-operative TEG’s

Baseline TEG
Showing hypecoagulable state of pregnancy

After massive hemorrhage
Despite 13u PRBC’s, 10u FFP, 5u platelets, 1250ml cellsaver

After cryoprecipitate
10 units cryoprecipitate given