

Management Of Refractory Thrombocytopenia In A Parturient With Twin Gestation, Asymptomatic SARS-CoV-2 And Mild Pre-eclampsia



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Introduction

SARS-CoV-2 infection during pregnancy is associated with a 2.2% increase in odds ratio of developing pre-eclampsia and has been associated with ITP. The exact mechanism of ITP associated with SARS-CoV-2 infection is thought to involve both reduced production and increased destruction of platelets. This poster describes the peripartum management of severe, refractory thrombocytopenia in a parturient with twin gestation, mild pre-eclampsia and SARS-CoV-2 infection. This work also highlights the value of thromboelastography (TEG) for clinical decision-making in patients with thrombocytopenia.

Anesthetic Management

Preoperative course

- 30-year-old G2P1001 with di-di twins was admitted at 37 1/7 weeks EGA for elective cesarean delivery due to vertex / transverse presentation
- PMH = well-controlled asthma, prior HSV infection, and one prior vaginal delivery
- Admission labs (figure 1) revealed SARS-CoV-2 infection, thrombocytopenia (nadir 22,000/ μ L), mild pre-eclampsia based on hypertension and proteinuria
- Her thrombocytopenia did not respond to multiple platelet transfusions, multiple doses of intravenous immunoglobulin (IVIG), or stress dose steroids
- Rapid TEG analysis was consistent with hypercoagulability

Intraoperative management

- Cesarean section was performed under general endotracheal anesthesia due to patient preference
- Prior to incision, two units of platelets and a bolus dose of aminocaproic acid were administered
- Healthy male (Apgar 6/8) and female (Apgar 7/8) were delivered with an EBL of 670 mL

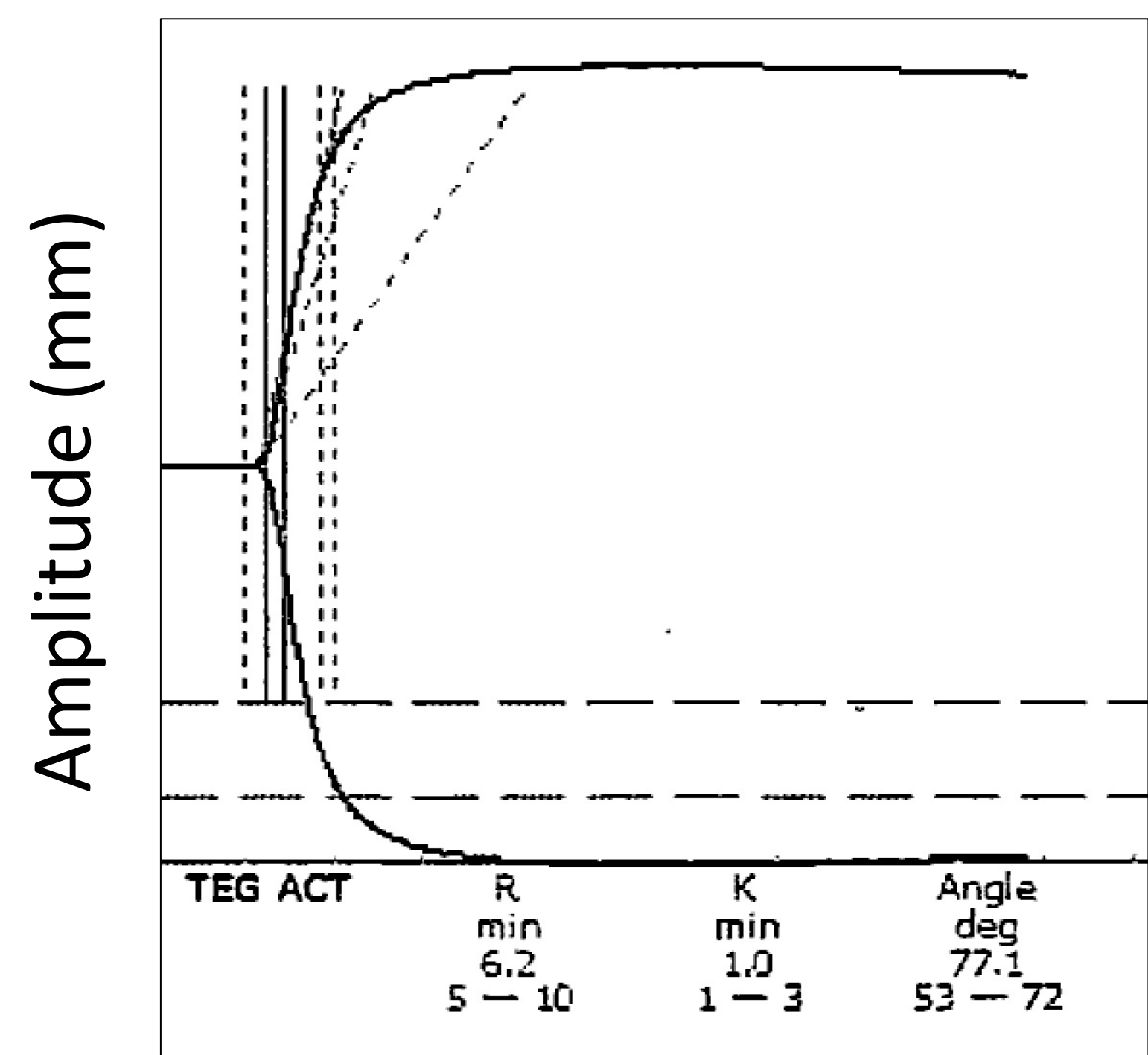
Postoperative course

- An infusion of aminocaproic acid was continued for twenty-four hours and remdesivir therapy was begun due to upper respiratory symptoms in setting of SARS-CoV-2 infection.
- Placenta pathology revealed signs of systemic inflammation, gestational hypertension, and pre-eclampsia.
- On postpartum day 3, platelet count increased to 272,000/ μ L
- Following completion of remdesivir therapy, mother and babies were discharged home on postpartum day 7.

Laboratory Findings

	Pre-admission	Admission	Day 2	Day 3	Preop C-Section	PPD 1
Platelets (150K-450K/uL)	173	30	22	35	62	76
Fibrinogen (180-400 mg/dL)	819	>860	>860			
D Dimer (0-0.59 mg/L FEU)					3.69	
TEG R (5-10 min)					7.4	6.2
TEG K (1-3 min)					1.3	1
TEG alpha (53-72 deg)					72.6	77.1
TEG MA (50-70 mm)					75	84
TEG G (4.5-11 kdyn/cm2)					14.9	26.2
TEG % lysis (0-8%)					0	0
HKH MA (53-68 mm)					>71	>71
ACTF MA (2-19 mm)					>30	>30
ADP MA (45-69 mm)					63.3	69.3
AA MA (51-71 mm)					54.7	60.9

FIGURE 1. Pertinent peripartum laboratory results. Abnormal values are highlighted in red.



Preoperative Rapid TEG

Discussion and References

- TEG is a useful tool in both risk stratification and clinical decision-making in patients with thrombocytopenia. Although TEG analysis supported the use of spinal anesthesia, the patient preferred general anesthesia.
- Mild pre-eclampsia and SARS-CoV-2 infection both likely contributed to this patient's profound thrombocytopenia and hypercoagulability, both of which resolved by postpartum day 3
- A multidisciplinary complex care team permitted optimal care of the patient and her babies

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