



Exudative Retinopathy and Sudden Blindness in Pregnancy: Walking the Diagnostic Tightrope Between Preeclampsia and TTP-HUS

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Introduction

Congenital thrombotic thrombocytopenic purpura (TTP) with Hemolytic Uremic Syndrome overlap is characterized by microangiopathic hemolytic anemia and thrombocytopenia with end-organ damage, underlain by ADAMTS13 deficiency.

Pregnancy may precipitate disease relapse and can clinically resemble preeclampsia — yet the two demand opposite management: TTP requires plasma exchange, while preeclampsia mandates delivery

Wide variation in the management options necessitates a multidisciplinary approach to overcome the severe outcomes related to both the conditions

Case History

A 27-year-old woman with congenital TTP-HUS, prior ischemic stroke, and bipolar disorder presented at 14 weeks’ gestation with transfusion-related acute lung injury after fresh frozen plasma transfusion, requiring plasmapheresis, intubation, and ICU care; she was discharged stable.

At 30 weeks’ gestation, she returned with severe headache and sudden bilateral vision loss limited to perception of light. Blood pressure was 150/95 mmHg, and fundus examination revealed exudative retinopathy — raising suspicion of TTP relapse versus preeclampsia with severe features.

She underwent plasma exchange, after which she developed pulmonary edema with worsening thrombocytopenia and elevated LDH, and required labetalol infusion for uncontrolled hypertension.

Investigations

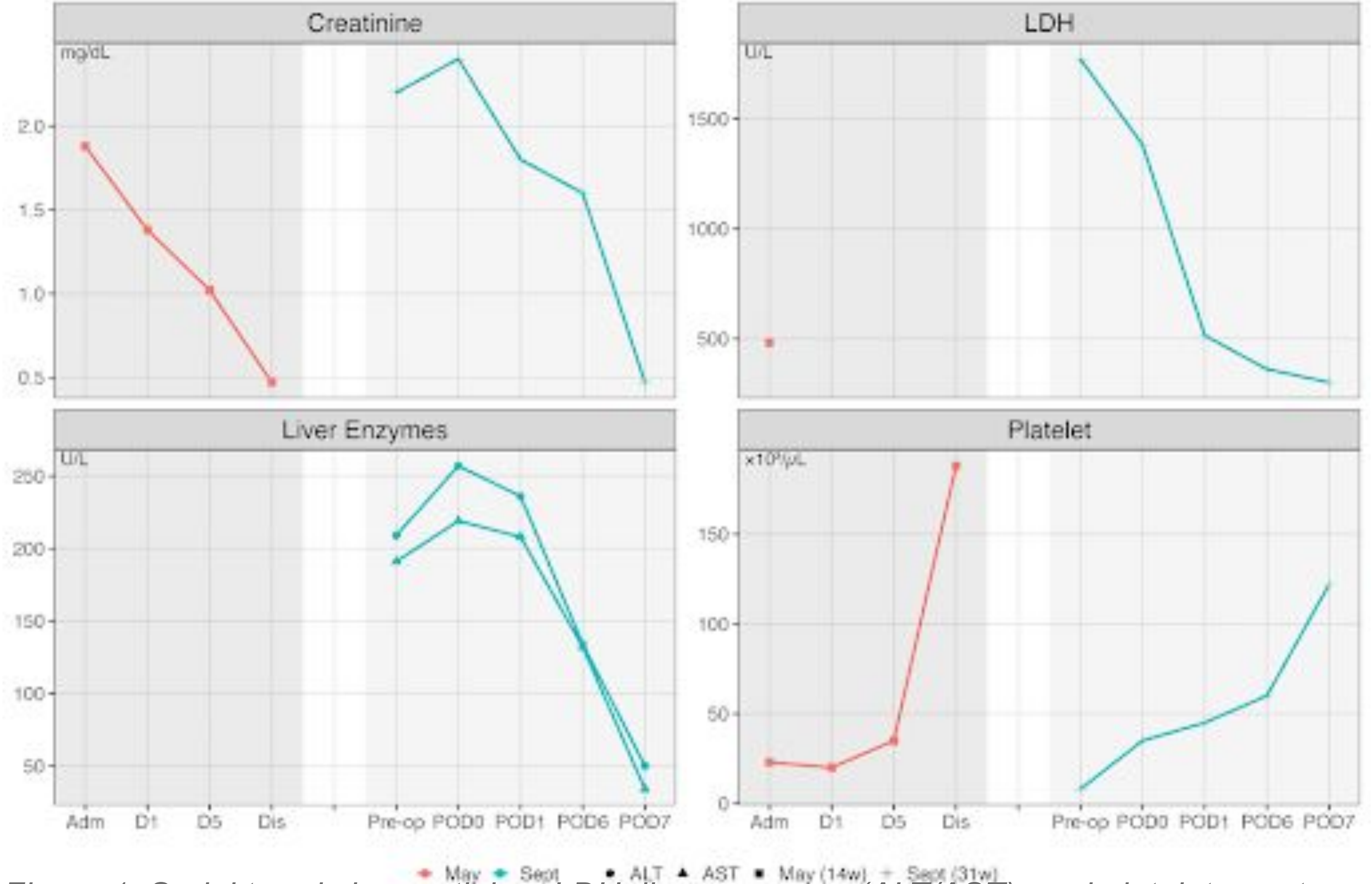


Figure 1. Serial trends in creatinine, LDH, liver enzymes (ALT/AST), and platelet count across the May 2025 (14w, hereditary TTP relapse) and September 2025 (31w, severe preeclampsia) admissions.

Management and Outcome

Multidisciplinary management involving obstetrics, hematology, critical care, and neonatology was undertaken.

She received steroid cover and plasma transfusion, and underwent emergency Caesarean section at 31 weeks, delivering a 1235g neonate with Apgar 2 and 7.

Postpartum, vision, blood pressure, and laboratory parameters progressively normalized; however, she developed acute psychosis on day 4 and was transferred to psychiatric care, while the neonate required intensive care.

Discussion

Distinguishing a congenital TTP relapse from preeclampsia with severe features is difficult, as microangiopathic hemolytic anemia and thrombocytopenia overlap in both conditions.

Acute vision loss and uncontrolled hypertension in the third trimester strongly favor preeclampsia. While plasma exchange manages TTP, decisive delivery remains the definitive treatment for preeclampsia.

Conclusion

- Differentiating TTP-HUS relapse from preeclampsia in pregnancy remains a critical diagnostic challenge.
- Serial clinical and laboratory assessment, with early decisive multidisciplinary intervention, is key to optimizing maternal and fetal outcomes.
- This case underscores the value of close, multidisciplinary collaboration whenever hematologic and hypertensive disorders of pregnancy present with overlapping features.

Feature	TTP-HUS Relapse	Preeclampsia (Severe)
Underlying defect	ADAMTS13 deficiency / microangiopathy	Placental vascular dysfunction
Hypertension	Usually mild or absent	Often marked (≥150/95 mmHg)
Vision loss	Can occur (microvascular)	Exudative retinopathy, cortical causes
Renal function	Prominent impairment (HUS)	Impaired in severe disease / HELLP
LDH / platelets	Markedly deranged, relapsing pattern	Deranged with hepatic involvement
Definitive treatment	Plasma exchange (PLEX)	Delivery of the fetus