Anesthetic management of a pregnant patient with coexisting ESRD and preeclampsia - a case report

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Preeclampsia

Multisystem disorder of pregnancy characterized by hypertension and proteinuria OR end-organ damage

Affects 7.5% of pregnancies worldwide and 2-5% pregnancies in the United States

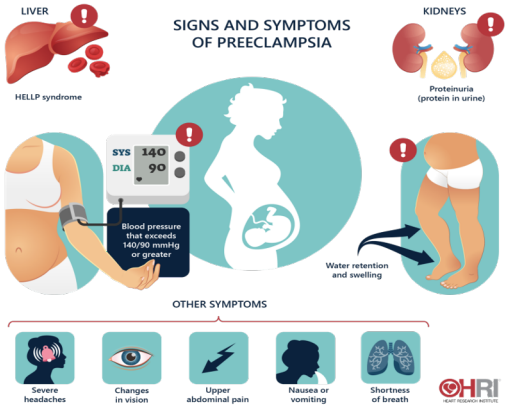

Figure 1.

End-Stage Renal Disease (ESRD)

Low incidence in pregnancy, with approximately 1-7% of female ESRD patients reporting successful conception

Frequency and duration of dialysis treatment is often increased during gestation

Figure 2.

Case Background and Management

Patient Background: 34 y/o female, BMI 36, G1P0. PMHx of ESRD, prior renal txp in 2012, anemia, and cHTN. Previously dialyzed 3x/week but increased to 6x/week at 16 wks gestation

Hospital Course

1. Patient admitted at 36 wks gestation for IOL and diagnosed w/ preE w/ SF upon admission due to a BP of 164/108 w/ a headache
2. BP initially managed with PRN IV labetalol and hydralazine, but later with PRN IV magnesium and close monitoring of levels and DTRs
3. Labor epidural was placed on hospital day two after ensuring normal platelet count and coagulation tests
4. An arterial line was placed for hemodynamic monitoring and a foley catheter was utilized for monitoring of fluid balance
5. C-section was performed on hospital day 3 under GA with 1 L EBL and 1 L of IV crystalloid administration
6. Admitted to the CCU post-op due to sustained high range BPs and managed with a clevidipine infusion
7. Discharged home hospital day 8 and reportedly doing well at a 2 week follow-up visit

Case Discussion and Learning Points

Coexisting ESRD and preeclampsia complicate obstetric and anesthetic care:

Close monitoring of magnesium levels is necessary to avoid toxicity

Judicious administration of volume to replace ongoing losses while avoiding hypervolemia

Assessment of potential coagulopathies and thrombocytopenia

Postpartum hypertension and blood pressure management

Effect	Plasma magnesium level	
	mg/dL	mEq/L
Normal serum levels	1.8 - 2.4	1.2 - 2
Therapeutic	5 - 9	4 - 8
EKG changes (prolonged PR, widened QRS)	6 - 12	5 - 10
Loss of deep tendon reflexes Muscle weakness	12	10
Respiratory compromise SA/AV node block	15 - 20	15
Cardiac arrest	≥ 24	20

Figure 3.

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