‘Doc, the Systolic Blood Pressure is Still 200’: A Case of Pre-eclampsia Presenting as Refractory Hypertensive Crisis

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Background

Hypertensive disorders complicate approximately 10% of all pregnancies. Devastating complications including intracranial haemorrhage can result from severe uncontrolled hypertension in pregnancy. Prompt treatment of severe hypertension and delivery planning are amongst the priorities of management in hypertensive crises.

Aims

To study a case of atypical presentation of pre-eclampsia at including a course of refractory hypertensive crisis, treatment
administered, delivery planning and the relevant maternal outcomes.

Case

A 20-year-old primigravida patient with no history of elevated blood pressures presented to birth unit at 38 weeks gestation for cervical ripening prior to planned induction for persistently reduced fetal movements. She developed severe hypertension to 200/100 mmHg with negative laboratory investigations for pre-eclampsia. Signs and symptoms of impending eclampsia were absent and fetal status was continuously monitored and reassuring. In the absence of other causes, a working diagnosis of pre-eclampsia with atypical features was made.

Results

Initial management of the hypertensive crisis included intravenous hydralazine given in 3 bolus doses, oral labetalol, and hydralazine infusion. Further treatment with intravenous labetalol given in bolus doses were commenced with support of intensive care unit. Magnesium sulfate was administered as per protocol for prevention of eclampsia. A second-line IV antihypertensive was considered but not required. An emergency Caesarean was performed in view of persistent severe hypertension refractory to treatment. This was followed by an admission to the HDU for ongoing blood pressure monitoring.

Postnatally, the patient continued to have labile blood pressures for 2 days requiring intermittent IV antihypertensive therapy. After 2 days, her blood pressure remained stable on oral therapy only and was discharged home with GP follow-up to wean her medications. Prior to discharge, the patient was reviewed by a medical team who agreed that other secondary causes of hypertension were unlikely.

Discussion

Severe hypertensive crises require joint input from the obstetrics and acute care teams. Generally, the goal is to lower the blood pressure by around 25% over 2 hours to avoid a rapid reduction in uteroplacental perfusion. First-line treatment include IV labetalol given in increasing doses as required, and IV hydralazine which is given in bolus IV doses and infusion. Immediate-release oral nifedipine can also be considered but may cause a rapid fall in blood pressure. Second-line agents include nicardipine and esmolol. In cases of pre-eclampsia complicated with pulmonary oedema, glycerin trinitrate can be used in combination with diuretics. Although magnesium sulfate is often given simultaneously and is thought to have an antihypertensive action, the effect is mild and cannot be considered an appropriate treatment for severe hypertension.

This contrasts with treatment of hypertensive crises in non-pregnant populations, where first-line agents are parenteral nitrates and calcium channel blockers before beta blockers and hydralazine are considered.

References

. UpToDate -- Treatment of hypertension in pregnant and postpartum patients

. UpToDate-- Drugs used for the treatment of hypertensive emergencies