

Acute onset of refractory hypertension in the third trimester of pregnancy

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Case

A pregnant 35-year old lady was noted to have a BP of 180/100 mmHg at a routine 39 week ante-natal visit. Her pregnancy had been otherwise uncomplicated with consistently normotensive blood pressure recordings. There was no history of hypertension and she had 3 previous uncomplicated pregnancies. Physical examination was unremarkable apart from an ejection systolic murmur. Liver function and clotting screen were within normal limits, urine was negative for protein and glucose and an ECG was normal, although K⁺ was low at 2.8 mmol/l (3.5-4.5 mmol/l). Despite bed rest and treatment with MgSO₄ and labetalol IV, her blood pressure remained elevated at 160/90 mmHg leading to an emergency caesarean section and the delivery of a healthy baby boy.

Immediately post-partum, BP remained persistently elevated at 180/100 mmHg despite labetalol 200 mg qds and amlodipine 5 mg bd and she was referred for further investigation. At 12 days post-partum, BP was 152/66 mmHg, she was feeling well and had no symptoms or signs of cardiac or endocrine disease. Investigations revealed K⁺ 3.1 mmol/l, urinary free cortisol and urinary catecholamines within the reference range and no abnormalities on a renal ultrasound. A history of a 6 week craving for liquorice was obtained which had led to the consumption of 100g/day of confectionery containing liquorice (Liquorice Allsorts). Subsequently, plasma renin activity came back low at 0.5 nmol/L/hr (1.1-2.7) and aldosterone was undetectable, <55 pmol/l (100-850 pmol/l). 2 weeks after stopping liquorice, a 24-hour BP measurement showed no hypertensive recordings with a mean systolic of 113 mmHg and mean diastolic of 56 mmHg and as a result the dose of anti-hypertensives was halved.

Her BP gradually decreased, labetalol was stopped 4 weeks later and amlodipine 10 weeks later. Her last BP off treatment was 134/88 mmHg, with a return of her potassium (4.3), renin (0.8) and aldosterone (105) to normal within 6 months post-partum.

Discussion

The syndrome of apparent mineralocorticoid excess (SAME) due to inhibition of 11-beta hydroxysteroid dehydrogenase type 2 may be induced by glycyrrhizinic acid, which is the active ingredient of liquorice. The surprise is that such a small daily amount of liquorice (100g of liquorice-based confectionery) is capable of inducing SAME. Pregnant women are potentially pre-disposed to liquorice side-effects as they have been shown to excrete increased amounts of compounds similar to glycyrrhizinic acid in the last 2 trimesters of pregnancy. A detailed dietary history should be taken from every patient presenting with symptoms of acquired apparent mineralocorticoid excess, as liquorice-induced hypertension is fully reversible.