Case Series of Hyperkalaemia in Two Pre-Eclamptic Primigravid Women with Hepatic Haematoma

Abstract Type: Case Report/Case Series
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Introduction: Pre-eclampsia is a multisystem disorder that affects up to 10% of pregnancies. It is characterised by both hypertension (>140/90mmHg) and proteinuria (>300mg in 24 hours) after 20 weeks gestation or within 48 hours of delivery (1). Hepatic haematoma and rupture is a rare but life threatening complication of pre-eclampsia with mortality rates up to 50% (2). Diagnosis of this potentially catastrophic complication can be elusive and often delayed due to its non-specific presentation. Hyperkalaemia has not previously been reported in this context.

Case 1: A 40-year-old primigravid woman at 36 weeks gestation presented with epigastric pain. An uncomplicated Caesarean section was performed for foetal distress with an estimated blood loss of 450ml. Post-operatively she became hypotensive with a haemoglobin of 6.9g/dl and a platelet count of 58x10^9L. She was diagnosed with HELLP syndrome and was transfused two units of packed red cells. A serum potassium (K+) during the first unit was 7.4mmol/l. Renal function was normal. An abdominal CT scan subsequently showed three bleeding foci within her liver parenchyma and a ruptured subcapsular haematoma. She recovered without intervention.

Case 2: A 35-year-old primigravid woman at 38 weeks gestation presented with epigastric pain. An uncomplicated Caesarean section was performed due to foetal distress with an estimated blood loss of 250ml. Post-operative bloods showed a haemoglobin of 8.5g/dl and a platelet count of 52x10^9L. She was treated for pre-eclampsia and subsequently diagnosed with HELLP syndrome. She was noted to be hyperkalaemic with a K+ of 6.8mmol/L and remained anaemic and thrombocytopaenic. Persistent epigastric pain led to an abdominal ultrasound, demonstrating a 12x4cm subcapsular hepatic haematoma. She also stabilised without any further intervention.

Discussion: Hyperkalaemia in these cases almost certainly developed following hepatic haematoma formation. Sampling error was excluded. Hyperkalaemia seen in these cases was presumably a result of hepatocyte damage and subsequent release of intracellular potassium. This phenomenon has also been reported following radiofrequency ablation of hepatocellular carcinoma (3). In both cases, hyperkalaemia preceded the imaging diagnosis of hepatic haematoma. In the context of pre-eclampsia, hyperkalaemia could alert to hepatocyte damage and lead to an earlier diagnosis of hepatic haematoma and subsequently reduce maternal and perinatal mortality.

References
1. Lancet 2010; 375:594-605
3. Eur J Gasgroen Hepat 2002; 14:1023-1024