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### **An unusual case of neonatal metabolic alkalosis causing seizures**

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**Introduction:** Metabolic alkalosis in neonates is very rare and attributed to gastric fluid losses, diuretics and congenital chloride diarrhea (CCH). There were four cases reported: due to maternal bulimia, Bartter's, vomiting and CCH. None of them had seizures.

**Case report:** A new-born was born in good condition by emergency lower segment caesarean section (LSCS) for intra-uterine fetal growth restriction (IUGR), preeclampsia and suboptimal cardiotocogram (CTG). She developed desaturation of 80% at 30 minutes followed by apnoea and seizures. Antenatally, mother had persistent vomiting for last one month and she also had cocaine and amphetamine abuse and active hepatitis C infection. The examination revealed irritability and hypertonia. Rest of the history and examination weren't significant. Mother and the baby showed hypochloremic metabolic alkalosis with deranged renal function and electrolytes except potassium of 3.5 and 2.4 in baby and mother respectively; urine was positive for opiates and cocaine. Cerebral function analyzing monitor showed seizure activities; EEG and MRI head were unremarkable. Infections and metabolic screening remained negative. She was ventilated and treated with designer electrolytes solution, antibiotics and anticonvulsants. Due to renal impairment acyclovir was not given both made uneventful recovery. Because of maternal substance abuse baby was discharged to grandparents with supervised access to parents.

**Discussion:** Maternal hypochloremic metabolic alkalosis was likely secondary to prolonged vomiting. The placental simple diffusion and hemodialysis effects explain the similar levels of electrolytes and renal function in mother and new-born except potassium. Initial normal (3.5 mmol/l) and later low (2.4 mmol/l) potassium levels are explainable by unidirectional placental potassium fluxes and intracellular shifting in alkalosis respectively. Desaturation and apnoea were due to shift of oxygen dissociation curve to left and hypoventilation by alkalosis. Early onset seizures were likely secondary to neuromuscular effect of alkalosis. This case illustrates the importance of close follow up of new-borns with maternal deranged electrolytes and renal impairment.

#### **Biography**

M Ranjan has completed MBBS and Postgraduate Master's degree in Sri Lanka and Membership of the Royal College of Pediatrics and Child Health in UK. She is currently working as Specialty Trainee Doctor at ST7 level in Yorkshire and Humber deanery rotation in United Kingdom.

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