

Hematuria Following Magnesium Sulfate Administration in a Pregnant Patient with Renal Tubular Acidosis

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Abstract : Renal tubular acidosis, a medical condition that involves the accumulation of acid in the body due to failure of the kidneys to maintain normal urine and blood pH, is rarely encountered in pregnancy. The effect of renal tubular acidosis in pregnancy is not fully established. It may worsen during pregnancy and cause maternal and fetal morbidity. A 30-year-old primigravida was diagnosed with renal tubular acidosis at age 7, but due to uncontrolled disease progression, she developed rickets at age 10. She was first seen in our institution at eight weeks gestation and maintained on bicarbonate and potassium supplementation. At 26 weeks gestation, she was diagnosed with polyhydramnios, causing on and off irregular uterine contractions. At 30 weeks gestation, despite oral Nifedipine, premature labor was uncontrolled; hence she was admitted for tocolysis. With elevated creatinine (123 $\mu\text{mol/L}$) and a normal blood urea nitrogen level (6.70 mmol/L), she was referred to Nephrology Service, which cleared the patient prior to MgSO_4 drip. Dosing of 4g MgSO_4 over 20 minutes followed by a maintenance of 2g/hour x 24 hours for neuroprotection and tocolysis was ordered. Two hours after MgSO_4 drip initiation, hematuria developed with adequate urine output. The infusion was immediately stopped. The serum magnesium level was high normal at 6.7 mEq/L . After 4 hours of renal clearance, the repeat serum magnesium level was normal (2.7 mEq/L) and with clear urine output. The patient was then given Nifedipine 30mg/tab, 3x a day which controlled the uterine contractions. At 37 weeks gestation, the patient delivered via primary low transverse Cesarean Section to a live female with a birthweight of 2470gm, appropriate for gestational age. The use of MgSO_4 for the control of premature labor in patients with chronic renal disease secondary to renal tubular can cause hematuria.

Keywords : hematuria, magnesium sulfate, premature labor, renal tubular acidosis

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