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Hypokalemic Periodic Paralysis due to Distal Renal Tubular Acidosis: Case Report in A Female Adult

Edy Nur Rachman, Novadian Suhaimi, Ian Effendi, Zulkhair Ali, Suprapti Slamet, Surya Darma, Elzan Zulqad Maulana, Chairil Makky, Elfiani Elfiani, Deddy Primadona Mulia
Department of Internal Medicine-Nephrology, Universitas Sriwijaya , Indonesia

Case Study : A 31-year-old female patient was admitted to the emergency department with a 2-day history of generalized weakness in the arms and legs. The same complaint had been felt 3 to 4 times in the past 12 months, but no attempt was made to find a cause. There was also no family history of this complaint. Case Findings Physical examination: General condition moderate, conscious, cooperative. Blood pressure: 100/70 mmHg, pulse: 76 bpm, body temperature: 36.7 °C. There was a decrease in muscle strength by 2/5 in the upper and lower extremities. Routine blood laboratory and clinical chemistry results were within normal limits, Electrolytes Na: 147 mEq/L, K: 2.3 mEq/L, Ca: 9.1 mg/dL. Arterial blood gas analysis results pH: 7.39, PCO2: 29.7 mmHg, PO2: 142 mmHg, HCO3: 14.4 mEq/L, BE: -6.7, urinalysis pH: 6.0, density: 1015, potassium 23.1 mEq/L, and trans tubular potassium gradient (TTKG) 10, with no cast identified. Thyroid function test results were normal as well as Anti-DNA and ANA were negative. Electrocardiography was sinus rytem. Abdominal ultrasound revealed multiple kidney stones. The patient was treated with potassium chloride infusion of 150 mEq for three days followed by slow-release potassium. On outpatient visit, normokalaemia without muscle weakness was observed. Discussion The patient presented to the hospital with muscle weakness, nausea, vomiting, constipation, and numbness. Symptoms are secondary to hypokalemia where serum potassium levels are below 2.5 - 3 mEq/L. The main finding in HPP is symmetrical loss of muscle strength, especially in the shoulder and pelvic muscles. In this patient, the complaints were symmetrical in the upper and lower extremities, and had occurred repeatedly. The patient was then diagnosed with dRTA according to the evaluation results of the RTA algorithm.

USG Case.jpeg

Figure 1.1 Abdominal USG Findings