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A "Strange" Hypocalcemia

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Background: Gitelman syndrome is a rare salt-losing tubulopathy (A), autosomal recessive genetic disorder that causes reduced reabsorption of NaCl in the distal convoluted tubule (Figure 1). It is characterized by metabolic alkalosis, hypocalcemia, hypomagnesemia and low levels of calcium in the urine.

Case History: M. C. aged 77, suffering from chronic ischemic heart disease, systemic arterial hypertension, pulmonary emphysema, renal lithiasis; following dizziness, headache and tremors he repeatedly enters the emergency room and performs several specialists visits that place diagnosis of "Epileptic seizures in the course of hypocalcemia". He returns to the emergency room again for the onset of unspecified tremors, dizziness and nausea. CT brain scan, CT abdomen scan, neurological and nephrological consultation are performed. Clinically presents generalized convulsions; blood chemistry tests show calcium 5.6 mg/dl, magnesium 0.4 mg/dl, urinary calcium <60 mg/24h, pH 7.50. Following intravenous administration of calcium gluconate and magnesium sulfate and normalization of blood levels of serum electrolytes, does not present additional convulsive manifestations.

Discussion: Reduced sodium reabsorption generates an increase in aldosterone secretion and onset of metabolic alkalosis, the contraction of plasma volume causes hypocalciuria. Hypocalcemia is a consequence of hypomagnesemia which is itself the cause of reduced functionality of parathormone and vitamin D [1].

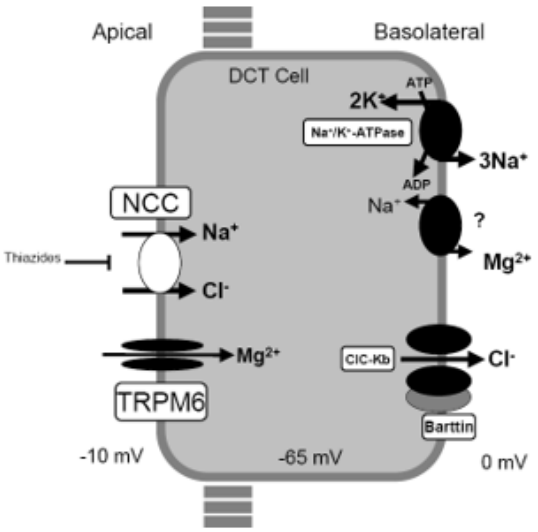

Figure 1: A model of transport mechanisms in the distal convoluted tubule.

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