The annual incidence of leukaemias in children is 4.5 cases per 100,000 children. Acute lymphoblastic leukaemia accounts for approximately 77% of cases. The common presentations in this age group are pallor, irritability and bone pain. Leukaemia cutis can be a rare presenting sign of ALL (3% of cases).

Gitelman syndrome is a rare autosomal recessive renal tubular disorder characterized by hypoglycemia, metabolic alkalosis, hypomagnesemia and hypocalcurea, most often it is caused by a mutation in the solute carrier family 21 member 3 (SLC12A3) gene. Prevalence is approximately 1:40000 and the prevalence of heterozygotes is approximately 1% in Caucasian populations, making it one of the most inherited renal tubular disorders.

We report a case of 7 year old boy who presented to emergency department with 4 days history of abdominal pain.

Past history revealed that he always likes salty and pickled food, having intermittent weakness and low energy but no paraesthesia or muscle cramps.

He was born at term with uneventful neonatal course. His development is normal and is fully vaccinated.

There is no family history of renal disease, Dad has IDDM, and he has one healthy brother.

On examination he was a slim boy, weight was 21.2 kg, height 119 cm (both between 9–25th centile) his vitals including blood pressure were normal. Systemic examination was normal apart from mild peri-umbilical tenderness. Abdominal X-ray showed faecal loading of colon and US abdomen was normal. He was referred for paediatric assessment by surgical team because of incidental finding of low serum potassium. His venous blood gas showed metabolic alkalosis and serum magnesium was low normal. ECG showed sinus rhythm.

He was admitted and started on intravenous fluids with added potassium chloride as well as oral K supplements.

Other investigations including early morning urine, albumin/creatinine ratio, urine for electrolytes, urine amino acids and urine for retinol binding proteins (RBP) were all normal. Blood sample for genetics was sent for Gitelman syndrome.

His oral potassium dose was increased gradually while weaning on potassium supplement in intravenous fluids. He was discharged home on oral potassium after his serum potassium. His repeat blood showed low serum magnesium, so he started on oral magnesium supplement. He also needed further increase in his potassium dose to maintain his serum level ≥2.8 mmol/L. His genetics tests confirmed two mutations in the SLC12A3 gene consistent with autosomal recessive Gitelman Syndrome.

Currently he is doing well and under regular follow up with general paediatric and paediatric nephrology.

Although it is a rare disorder, Gitelman Syndrome should be considered in children with unexplained hypokalaemia, with adequate treatment patients usually have excellent prognosis.