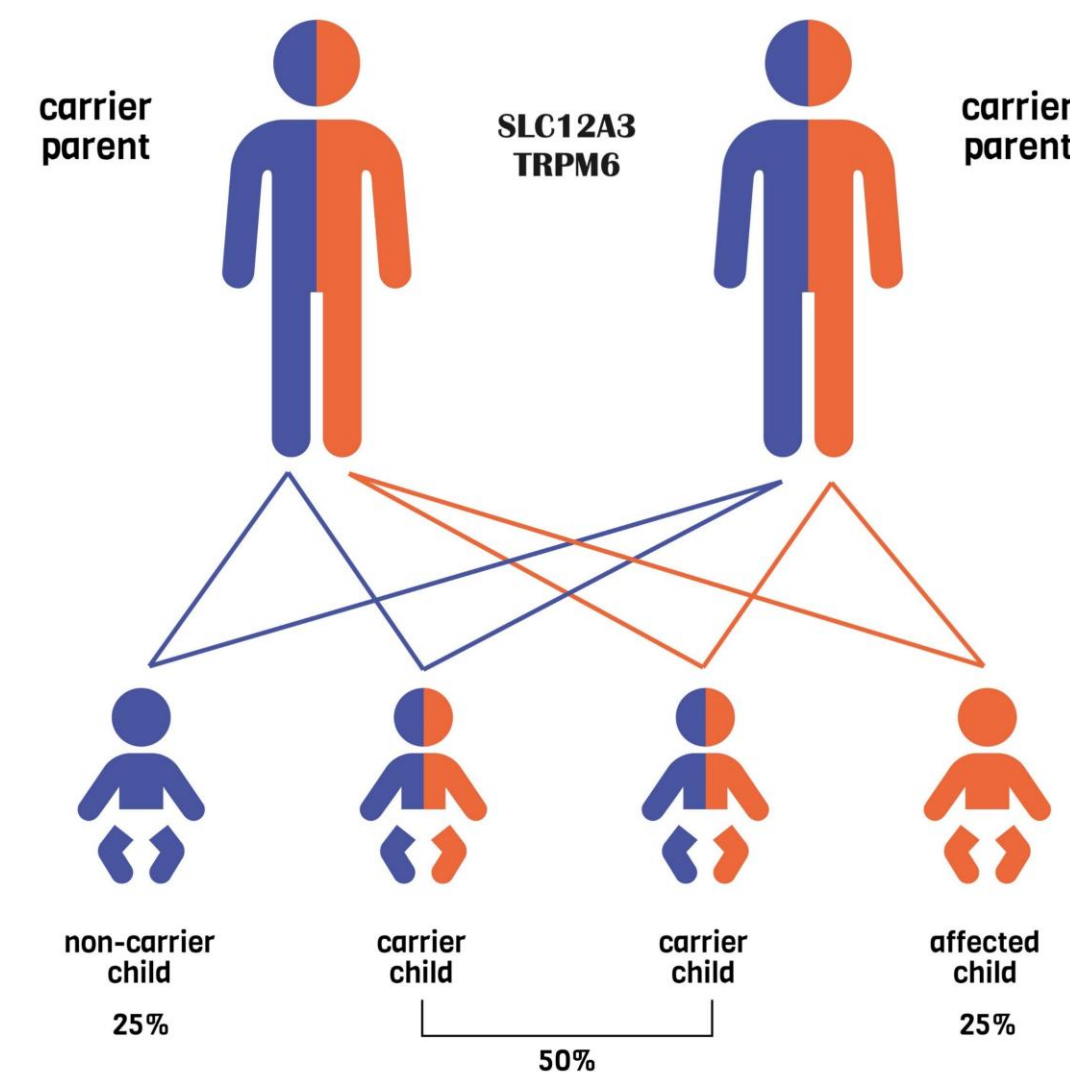


Gitelman syndrome in pregnancy

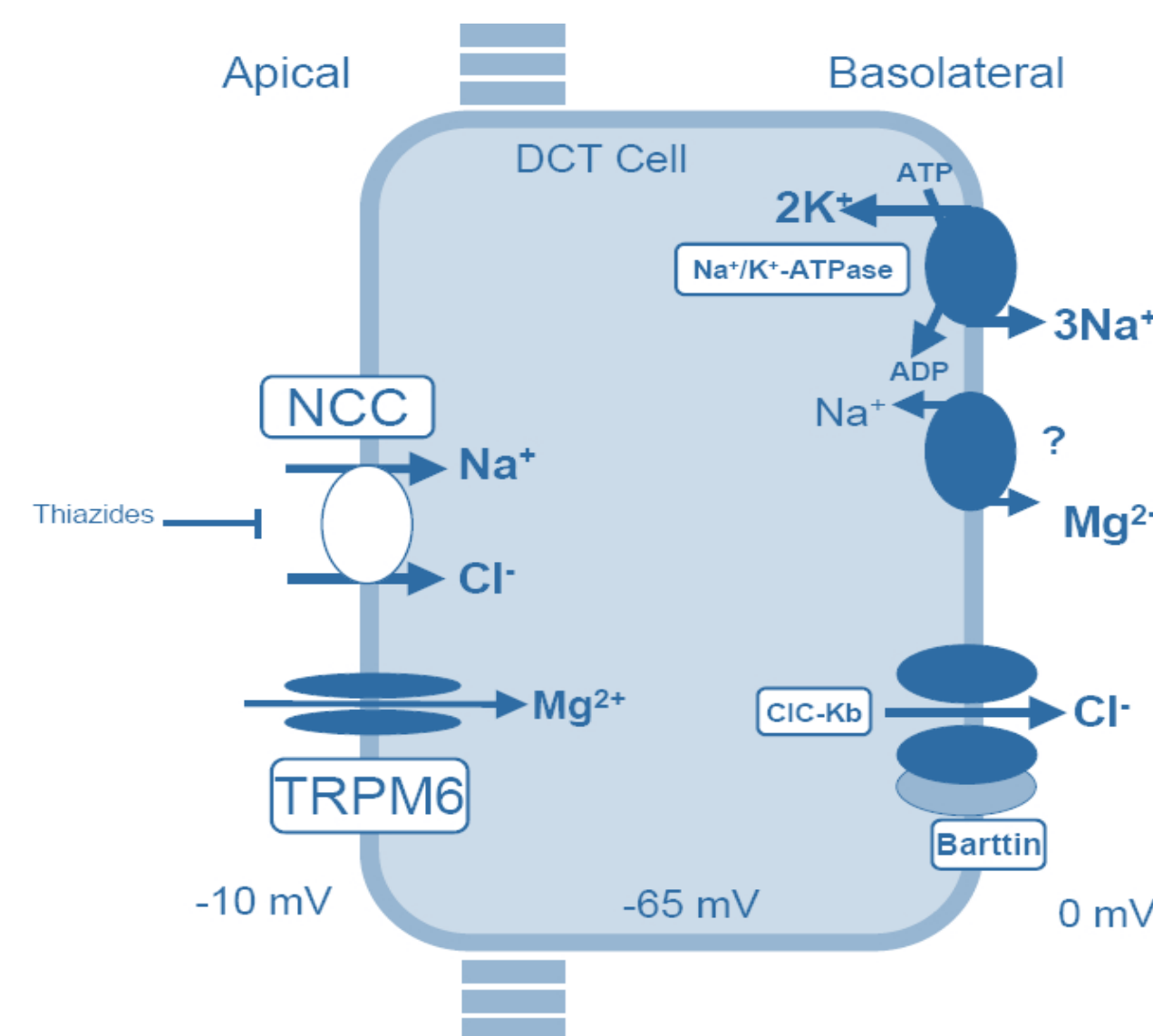
Dr. Khalid Alloush, Dr. Tabitha Oosterhouse
Ysbyty Gwynedd, Betsi Cadwaladr University Health Board (BCUHB)

Etiology

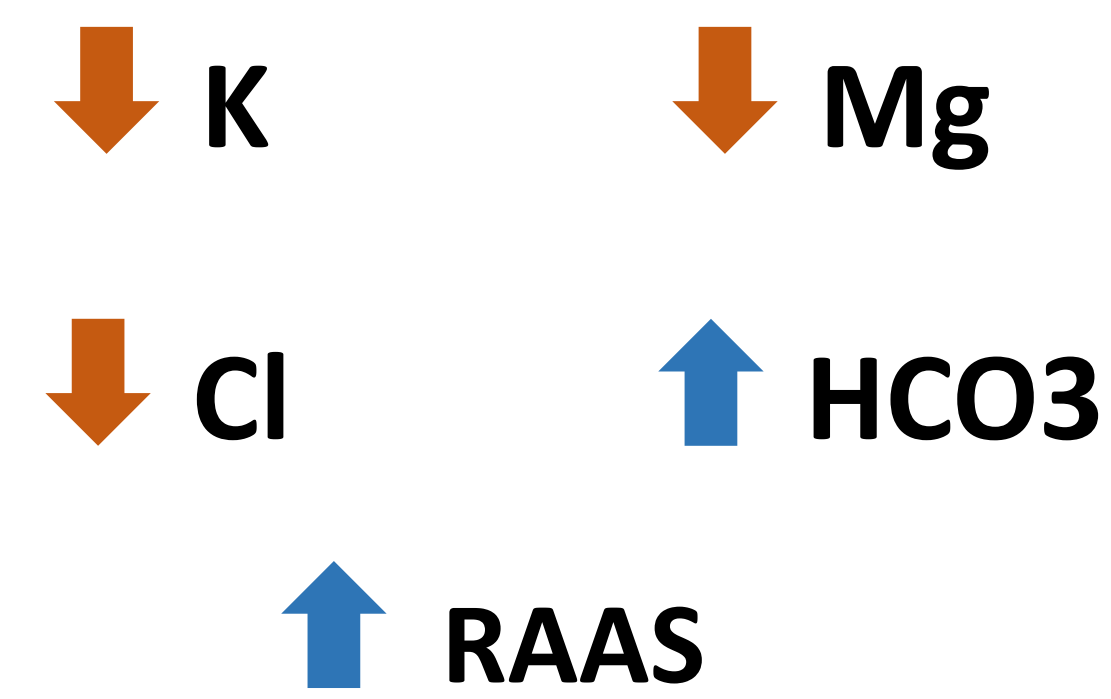


1-10 in 40,000

Pathophysiology



Biochemical Changes



Presentation

Asymptomatic
Muscle weakness
Cramps
Salt craving
Polydipsia
Polyuria

Management

Potassium CHLORIDE
Magnesium salts
+/- Aldosterone antagonist
Salt intake

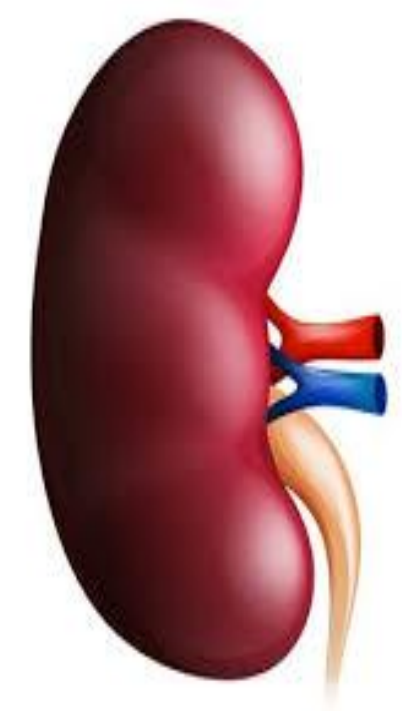


K > 3
Mg > 0.6

Pregnancy

Known aggravation of hypokalaemia and hypomagnesaemia

Increased GFR and tubular reabsorption



Physiologic K, Mg loss

Tubular defect causes uncontrolled loss

- ❖ Emesis gravidarum and fetal demands may aggravate hypokalaemia
- ❖ Favourable prognosis in pregnancy with close monitoring and correction
- ❖ Caution with general and regional anaesthesia – aim K > 3, Mg > 0.5
- ❖ Reported complications include increased risk of miscarriage, IUGR, oligohydramnios and maternal morbidity due to electrolyte imbalance

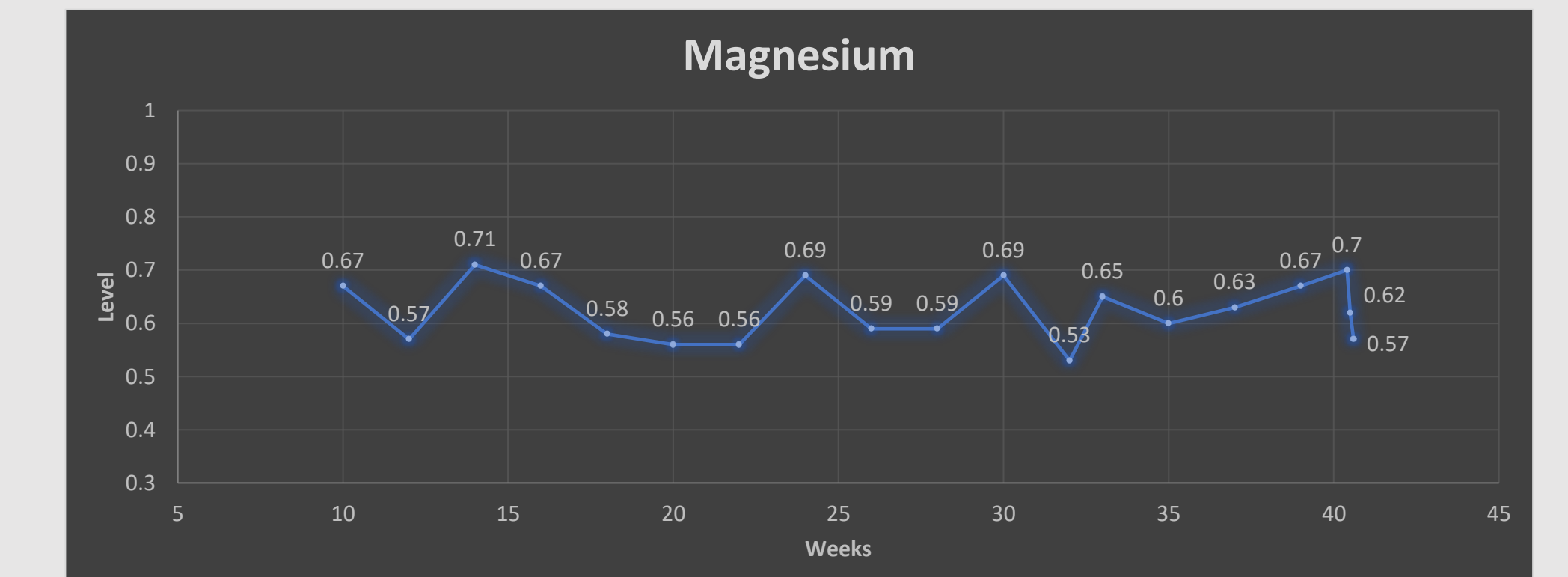
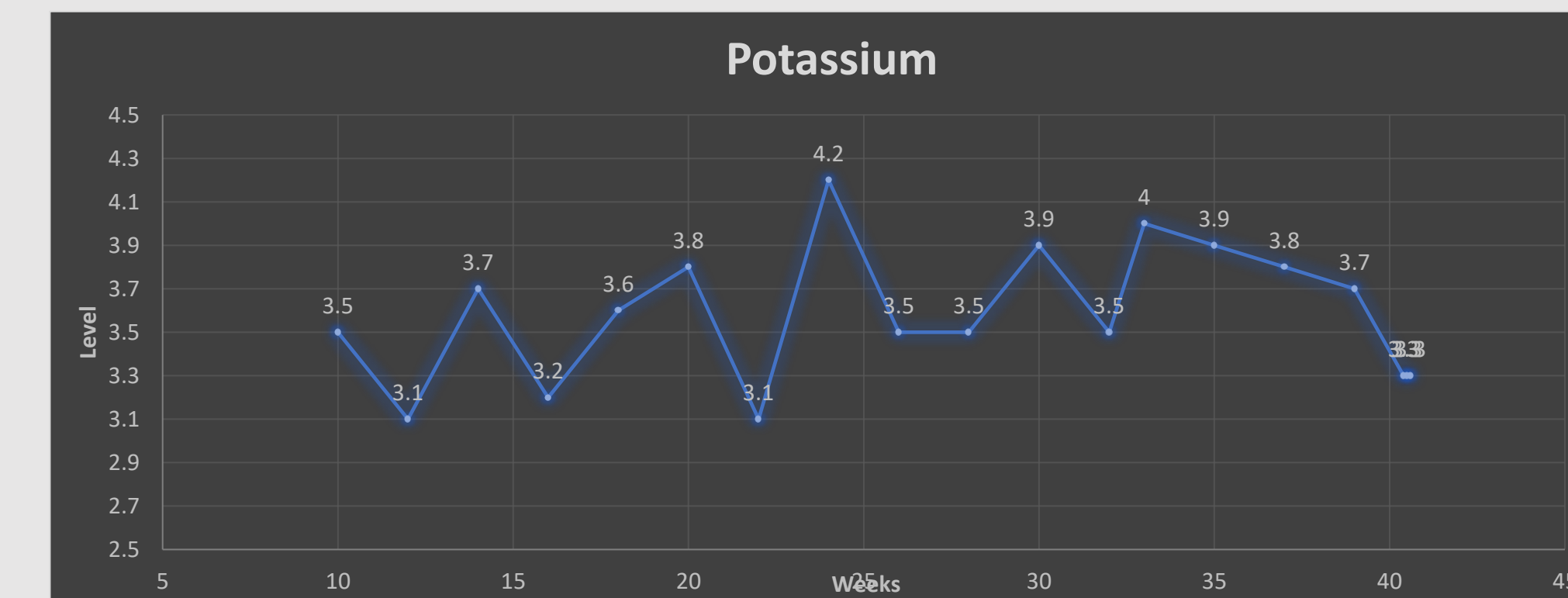
Case Presentation

A 30-year-old, G2P1 patient presented for booking with history of Gitelman syndrome. Early joint management of the patient's pregnancy started involving obstetric medicine and nephrology. Patient-initiated follow-up and regular monitoring of electrolyte profile while adjusting the medications accordingly led the doses to almost double over the pregnancy period.

By term, they were adjusted to 30 mmol of potassium chloride 4 times daily, 15 mg of amiloride twice daily, and 40 mmol of magnesium glycerophosphate 4 times daily. This caused gastrointestinal upset, and omeprazole was started on a when-required basis because it may reduce magnesium level. The patient had forceps delivery at term having a healthy baby.

On the first day postpartum, magnesium level dropped to 0.45, which was corrected by intravenous magnesium sulphate. The patient was discharged from obstetric care for nephrology follow-up. Postpartum, the patient went back to pre-pregnancy doses.

Electrolyte Monitoring



Conclusion

Careful monitoring, patient-initiated follow-up and multidisciplinary team approach are advised in management of Gitelman syndrome in pregnancy leading to favourable prognosis.

References

- Parmar MS, Muppidi V, Bashir K. Gitelman Syndrome. [Updated 2023 May 16]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-.
- Anne Blanchard, et al. Gitelman syndrome: consensus and guidance from a Kidney Disease: Improving Global Outcomes (KDIGO) Controversies Conference. Kidney International (2017) 91, 24–33.
- Najam R, Tomar Y, Singh M (February 09, 2023) Gitelman's Syndrome in Pregnancy With Adverse Foetal Outcome: A Case Report. Cureus 15(2): e34791.
- Yu H, Liao H, Wang X, Tong Y. Outcome of twin pregnancy in a patient with Gitelman syndrome: a case report and literature review. Ann Palliat Med 2020;9(4):2361-2366. doi: 10.21037/apm-19-299
- Nine VAM Knoers and Elena N Levtschenko – Orphanet Journal of Rare Diseases 2008, 3:22.