A 26-year-old female presented with 5-year history of episodic muscle weakness, abdominal cramps and facial paraesthesia. She had 2 hospital admissions elsewhere within 6 months with severe hypokalaemia (1.9 mmol/L). She was started on Lamotrigine for epilepsy 7 years ago and changed to Levetiracetam in October 2010 following further seizures. She is now seizure-free for over 5 years. Her potassium levels before and after Levetiracetam are shown in Table 1.

She had an uneventful childhood. She had no osmotic or urinary symptoms, denied diuretic, laxative, excessive alcohol/liquorice ingestion. No relevant family history. Her body mass index is 22.3, blood pressure 103/55 mmHg. Physical examination was unremarkable. Biochemical evaluation is as shown in Table 2. Her genetic screen is awaited.

In this case with normotensive hypokalemic alkalosis, differential diagnoses are Bartter syndrome (negative family history, normal aldosterone), Gitelman syndrome (no family history, normal magnesium), diuretic use (negative urine screen), laxative abuse (history), normotensive primary hyperaldosteronism (normal aldosterone).

Given the sequence of results, most likely cause of severe hypokalaemia is Levetiracetam. She declined temporary withdrawal of Levetiracetam due to risk of seizure recurrence affecting driving and job. She remains on spironolactone and potassium supplements.

Our literature search yielded only two case-reports [1, 2] of Levetiracetam-induced hypokalaemia involving 3 patients all of whom had additional hypomagnesaemia.

CONCLUSIONS

To our knowledge, this is the only report of Levetiracetam-induced severe life-threatening isolated hypokalaemia. Levetiracetam is increasingly used for epilepsy and further studies on the prevalence of life threatening electrolyte imbalance are required to guide biochemical surveillance.

REFERENCES