MedicinesUpdateExtra

NHS Greater Glasgow and Clyde

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ORAL PROTON PUMP INHIBITORS – PATIENT SCENARIOS

Scenario 1

A young male patient was admitted with convulsions. Despite repeated administration of benzodiazepines he remained in status epilepticus. He had a three month history of PPI use and no other obvious cause for the seizures. An urgent magnesium level was requested and was reported to be 0.26mmol/L (0.7-1mmol/L).

What are the issues?

- PPI-induced hypomagnesaemia is an adverse effect of PPIs and should be considered if a patient presents with symptoms and has been on PPI therapy
- Convulsions are a possible symptom of hypomagnesaemia

What could be done in this patient?

- Hypomagnesaemia should be corrected immediately with magnesium infusions in line with local guidance
- The indication for the PPI should be noted and it should be stopped if possible. Alternatives to the PPI should be considered if necessary.
- As this is a serious adverse effect, it should be reported to the Medicines and Healthcare products Regulatory Agency (MHRA) on a yellow card.

Scenario 2

A 56 year old woman developed vomiting and diarrhoea, most likely due to infection with the winter vomiting virus. Her usual medication was omeprazole 20mg daily and amlodipine 5mg daily. She had a history of excessive alcohol consumption. Two days after the vomiting and diarrhoea had settled her GP referred her for admission to hospital because she was unable to care for herself due to weakness and anorexia. On admission there were no abnormal physical findings. Her serum magnesium was low at 0.40mmol/L and her serum potassium was low at 3mmol/L. The rest of her results were unremarkable.

What are the issues?

- Consider that certain patient groups may be more at risk of hypomagnesaemia if nutrition status is poor, eg alcohol misuse
- Symptoms of hypomagnesaemia may begin insidiously and so the cause may be overlooked

What could be done in this patient?

- Magnesium and potassium should be replaced as per local guidelines.
- The indication for the PPI should be noted and it should be stopped if possible. Alternatives to the PPI should be considered if necessary.
- Her symptoms of weakness and her dietary intake should be monitored
- The patient should be encouraged to reduce her excessive alcohol consumption (a referral to the Addictions team could be considered if appropriate).

Scenario 3

An elderly patient on long term PPI treatment presented to the GP with dizziness and falls. There were no abnormal neurological findings. Electrolyte imbalance was considered as a possible cause. Magnesium and sodium levels were found to be low.

What are the issues?

- Many patients present in primary care with non-specific issues which can be difficult to explain.
- This case highlights the potential to consider adverse drug reactions as a cause of vague presentations
- Ruling out possible causes is an important part of the diagnostic process. If electrolyte imbalance had not been identified, this patient may have been given unnecessary drug therapy to treat the symptoms rather than the cause. Accurate diagnosis helps to avoid polypharmacy

What could be done in this patient?

- Magnesium should be replaced and monitored as per local guidance
- Her urea and electrolytes (U+Es) and symptoms should be monitored for any improvement in her condition
- The indication for the PPI should be noted and it should be stopped if possible. Alternatives to the PPI should be considered if clinically appropriate
- If the PPI cannot be stopped magnesium supplementation could be considered, based on clinical judgement and local guidance.