Section 5: Patient Safety and Quality assurance

5PSQ-001 PHARMACIST INTERVENTION TO IMPROVE THE SAFETY OF PATIENTS TREATED WITH PROTON PUMP INHIBITORS

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Background and importance The use of proton pump inhibitors (PPIs) to treat acid related disorders is increasing worldwide and this raises concerns. Accumulating evidence supports the increased risk of long term adverse events, such as fractures, chronic kidney disease (KD), hypomagnesaemia, *Clostridium difficile* infections, associated with chronic PPI use.

Aim and objectives The aim of the study was to describe the results of a pharmacist intervention to improve the safety of hospitalised patients receiving treatment with PPIs.

Material and methods A prospective study was conducted from July to September 2019 in a tertiary care hospital. We included all hospitalised patients with active prescriptions for PPIs and presenting with hypomagnesaemia, KD and *C difficile* associated diarrhoea. In these cases, a message containing a safety note from the 'Agencia Española de Medicamentos y Productos Sanitarios' was reflected in the electronic prescribing software application.

The following data were collected from the electronic health records: sex, age, hospital unit, adverse events associated with PPI use, pharmacist intervention acceptance (yes/no) and subsequent modification of the prescription by physicians.

Results We included 55 patients (21 women) with a mean age of 67 years (range 24–91). The main prescription units were: internal medicine (25.9%), nephrology (18.5%), haematology (11.1%), digestive (9.25%) and surgery (9.25%).

Around 70.9% of patients (n=39) presented with hypomagnesaemia, 21.8% (n=12) with KD, 3.6% (n=2) with *C difficile* infections and 3.6% (n=2) had *C difficile* associated diarrhoea and hypomagnesaemia.

In total, 55 interventions were carried out, 16 of them (29.1%) were accepted and the treatment was modified by the physicians as follows: ranitidine was prescribed in 15 cases (instead of PPI), 13 because of hypomagnesaemia and 2 due to KD; and the PPIs posology was modified in 1 patient with KD.

Conclusion and relevance Most patients identified were hospitalised in the internal medicine unit, and hypomagnesaemia was the most common event adverse. The acceptance rates for this pharmacist intervention was moderate. It is necessary to continue with the distribution of safety notes and medication review in order to avoid potential adverse effects.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

5PSQ-002 HYPOMAGNESAEMIA ALERT! MONITOR CLOSELY PROTON PUMP INHIBITORS FOR CHRONIC TREATMENT IN ELDERLY PATIENTS

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Background and importance There have only been 175 cases of hypomagnesaemia associated with prolonged use of proton pump inhibitors (PPIs) reported to FEDRA (Spanish Pharmacovigilance, Adverse Reaction Data) since commercialisation of PPIs, despite the alert published by AEMPS in 2011.

Aim and objectives To detect hypomagnesaemia in patients admitted to an acute geriatric hospital and look for a relationship with chronic PPI treatment, and to determine the frequency of this adverse effect with respect to all hospitalised patients and the electrolyte alterations that may be related.

Material and methods A retrospective study was conducted during the first half of 2019 in admitted patients treated with magnesium in an acute geriatric 160 bed hospital. Demographic data were collected (age, sex). Hypomagnesaemia (<1.9 mg/dL) associated with chronic PPI treatment was reviewed, and risk factors such as concomitant treatment with loop diuretics and/or thiazide diuretics, and/or potentially related electrolyte alterations (hypokalaemia (<3.7 mEq/l) and hypocalcaemia (<8.4 mg/dL)) were assessed. The frequency of the adverse event was determined from the total number of patients admitted receiving treatment with PPIs.

Results There were 67 patients receiving magnesium treatment and 5 were excluded as it was unrelated to PPI treatment. The included patients had a mean age of 83.96 years (26 men and 36 women) and had been receiving PPI treatment for a mean of 9.17 years. Forty-nine patients (79.03%) received concomitantly a diuretic. In 12 patients (19.35%) clinically significant low magnesium levels were found (< 1.2 mg/dL), 6 of them (9.67%) critical (<0.9 mg/dL). We recorded14 patients (22.58%) with hypokalaemia and 11 (17.74%) with hypocalcaemia.

Of the 2301 admitted patients, 1960 were being treated with a PPI (85.18%) and hence the frequency of hypomagnesaemia related to PPIs in our study population was 1/31 patients treated. FEDRA will be notified of these results. In 41 (66.12%) there was a change in treatment: 35 (56.45%) switched to ranitidine and in 6 (9.67%) the PPI was discontinued.

Conclusion and relevance In our study, hypomagnesaemia was a frequent adverse effect (≥1/100 to ≤1/10). This adverse effect was underrated, which means that it is still considered infrequent. We believe that more studies are needed that can quantify the frequency within the patient's healthcare continuity.

REFERENCES AND/OR ACKNOWLEDGEMENTS

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4230950/

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