Deprescribing Proton Pump Inhibitors

Peter J Zed

Deprescribing is the planned and supervised process of dose reduction or discontinuation of a medication that may cause harm or that may no longer be providing benefit to a patient.[1] Deprescribing reduces polypharmacy while minimizing the risk of adverse events caused by unnecessary medications. Although deprescribing strategies should be applied to all patients, older adults are often the target population because of their higher risk of adverse drug events.

Proton pump inhibitors (PPIs) are one of the most commonly prescribed classes of medication. They are used to treat a variety of gastrointestinal indications, including gastroesophageal reflux disorder, peptic ulcer disease, Barrett esophagus, esophagitis, and gastritis; they are also used as gastroprotection for patients receiving long-term therapy with nonsteroidal anti-inflammatory drugs. Although PPIs are a relatively safe class of medications, their use carries certain risks, particularly with long-term use. The risks of long-term PPI use include fractures, pneumonia, enteric infections, hypomagnesemia, acute interstitial nephritis, and vitamin B_{12} deficiency.[2] In a national modified Delphi consensus process, PPIs were selected as a target medication class for deprescribing strategies because of their high prevalence of both use and overuse.[3]

This issue of the *Canadian Journal of Hospital Pharmacy* includes 3 papers that highlight ongoing issues with PPIs and evaluate the impact for patients for whom PPIs are being prescribed and those who are using PPIs on a long-term basis. Chan and others[4] retrospectively evaluated the appropriateness of PPI use among patients in residential care facilities in British Columbia.[4] They found that among 407 PPI orders for 334 patients, 16% did not have any of the broad evidence-based indications for use, as defined by the study's authors, and 44% did not have a common evidence-based indication for use (i.e., gastroesophageal reflux disorder or peptic ulcer disease). Doell and others[5] retrospectively evaluated the charts of 147 residents of long-term care facilities to determine their eligibility for PPI deprescribing. In addition, they evaluated vitamin B_{12} deficiency and fall risk in the study population. They found that 63% of the residents were candidates for PPI deprescribing. Among those residents, 20% did not have any identifiable indication for PPI use. Although no causal relationship or consequences were established in this study, 9% of the residents had experienced a fall within the previous 30 days, and 36% were receiving vitamin B_{12} supplements or had low serum vitamin B_{12} levels. In the third study, Wan and others[6] characterized the appropriateness of PPI orders initiated or continued in a population of internal medicine and family practice inpatients. They also evaluated potential adverse events associated with PPI use and the impact of an educational intervention to improve prescribing. This chart review showed that 36% of the 258 patients did not have any indication for PPI. Community-acquired pneumonia and *Clostridium difficile* infections were the most common adverse events potentially associated with PPI use. Finally, the authors' survey of health care professionals showed that a multidisciplinary educational intervention improved PPI prescribing for more than half of respondents.

This important series of studies, conducted in 3 distinct patient populations, illuminates the issue of PPI deprescribing, and challenges pharmacists to play a role in appropriate use of these drugs. Every patient, in any setting, for whom a PPI is being prescribed and all those who are receiving a PPI on a long-term basis should undergo an assessment for appropriate use. A recently published evidence-based clinical practice guideline can help clinicians to make decisions about when and how to deprescribe PPIs.[7] In addition, a toolkit for deprescibing PPIs

has been developed by the Choosing Wisely Canada campaign.[8] Together, these resources are valuable tools for all health care providers, presenting details on the appropriate indications for and duration of PPI therapy, the long-term risks of using a PPI, strategies to engage patients and health care providers, and thorough deprescribing algorithms. In addition, the Choosing Wisely Canada toolkit provides useful and practical performance measures that hospitals and related health care settings can use to evaluate interventions associated with PPI prescribing and deprescibing.

Pharmacists are the optimal health care professionals to provide leadership in appropriate use of all medications. Although this issue of the Journal focuses on deprescribing PPIs, we should always be exploring opportunities to improve medication use and thereby enhance the health outcomes of our patients.

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CORRECTION

Successful Treatment of Stevens–Johnson Syndrome with Cyclosporine and Corticosteroid: Correction

A recent case report[1] in the *Canadian Journal of Hospital Pharmacy* (*CJHP*) included a table summarizing previously published evidence for the use of cyclosporine to treat Stevens–Johnson syndrome and/or toxic epidermal necrolysis. One of the articles summarized in that table was by Singh and others.[2] In the *CJHP* article,[1] the intervention column of Table 1 showed an incorrect starting dose for the cyclosporine therapy administered in the study by Singh and others.[2] The starting dose was 3 mg/kg, not 1 mg/kg as stated in the table.

Therefore, in the row for the study by Singh and others, the entry for the intervention column should read as follows:

> Cyclosporine 3 mg/kg daily orally in 3 divided doses for 7 days, then 2 mg/kg daily in 2 divided doses for 7 days (n = 11)

References

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