The Appropriateness of a Proton Pump Inhibitor Prescription

Abstract:

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Abstract

Proton pump inhibitors (PPIs) are one of the most commonly prescribed groups of drug in Ireland, at great expense to the Irish healthcare executive. This study aims to evaluate the appropriateness of PPI prescriptions on admission and discharge in a tertiary referral hospital. All non-elective admissions in the Emergency Department in one week were included in the study. 102 patients in total were included, with 36 (35.4%) treated with a PPI on admission. Of these, only 3 (8.3%) had a clear indication noted as per current NICE guidelines. 18 new in-hospital PPI prescriptions were documented. 11 (61%) of which were present on discharge prescriptions. Continuing PPI prescription on discharge into the community may be inappropriate, costly and potentially harmful. Brief interventions aimed at reducing inappropriate PPI prescriptions have been shown to be effective at reducing the cost and potential harm of unnecessary treatment.

Introduction

Proton pump inhibitors (PPI) are the second most frequently dispensed medication in Ireland accounting for 8% of overall drug expenditure in 2011. Previous reports have estimated that over 60% of all PPI prescriptions are generated from within the hospital setting, and multiple studies have documented widespread inappropriate use of PPIs within hospitals. Furthermore, PPI therapy has been increasingly linked with adverse side effects including lower respiratory tract and clostridium difficile infections, and accelerated bone loss. The evidence for short term prophylactic PPI use in hospital inpatient care is well recognised. However this treatment is often not subsequently reviewed, resulting in a considerable number of inappropriate PPI prescriptions persisting beyond discharge. The National Institute of Clinical Excellence (NICE), guidelines on the appropriate use of PPIs, recommends regular review of patients to assess the continuing need for PPIs and stepping down of therapy if indicated. Stopping PPI therapy can be associated with a transient rebound hyper secretion dyspepsia when a PPI is discontinued after more than 3 months therapy. This gives a short window of opportunity in which to identify inappropriate PPI prescriptions. Physicians should advise patients of this temporary rebound phenomenon to prevent a perceived PPI dependence.

Methods

We performed a brief observational study in our Emergency Department to assess practices surrounding PPI prescription in acute medical and surgical admissions. Details of all non-elective admissions by the medical and surgical teams during one week from 6th-10th February 2013 were obtained. Admission notes to document PPI prescription prior to admission were reviewed and we interviewed patients as to whether they knew the indication for their PPI treatment. We assessed in-hospital PPI prescribing and follow up, as well as discharge prescriptions.

Results

In total, 102 patients were included in the study, 54 female (53%). The median age was 67 (range 19-88 years). 36 patients (35.4 %) were treated with a PPI on admission. The indication for PPI treatment was documented in only 3 (8.3 %) patients notes. Following patient interviews, we were able to identify a reason for ongoing PPI use in 13 cases (35%) that were consistent with current NICE guidelines. 18 patients (17.8%) were commenced on a PPI on admission, with stress ulcer prophylaxis and dyspeptic symptoms the most common indications noted. Of the 18 new in-hospital prescriptions, 11 (61%) were present on discharge prescriptions.
Discussion

A recent study of the pharmacoeconomics of PPI therapy outlined the possible savings to the healthcare system that can be achieved by brief interventions, with a reduction of 51% of inappropriate prescriptions following education and medication review. Potential cost savings to the Irish healthcare system of between 24-46% per annum have been identified by initiating dose reduction and therapeutic switching or substitution when appropriate. These savings could be further enhanced with the discontinuation of inappropriate PPI prescriptions on discharge from hospital. Our study confirms that a significant proportion of patients commence PPI therapy on admission or during the inpatient stay. This may be overlooked on discharge and continue into the community. Older patients in particular have been identified as at risk for perpetuating inappropriate PPI prescriptions, with educational interventions in this group proving effective at reducing inappropriate therapy. Simple, fast and effective interventions including junior physician education and systematic review of medicines commenced during inpatient stay could reduce the number of inappropriate PPI prescriptions on discharge.

As PPI use has become more widespread, and in particular with the recent advent of OTC formulations, doctors are less likely to question the original indication for patients’ prescription. Patients themselves are often unaware of why they are taking these particular medications. With the mounting number of adverse side effects documented, and the increasing pressure on the healthcare budget, a brief investigation of the indication for treatment should be performed. In-hospital PPI prescriptions should be reviewed on discharge to ensure ongoing PPI treatment is appropriate.

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