Proton pump inhibitors in the prevention of NSAID-related gastrointestinal injury at hospital discharge: are they used appropriately?

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Background: Upper gastrointestinal (GI) complications associated with nonsteroidal anti-inflammatory drugs (NSAIDs) vary according to the presence of risk factors. For at risk patients, guidelines recommend prophylaxis with proton pump inhibitors (PPIs). Nevertheless, upper GI protection with PPIs is often inappropriate, with lack of prescription in patients at risk or prescription in patients without risk. **Objective:** The aim of the present retrospective analysis was to evaluate the rate of prescriptions of PPI at hospital discharge in the Health District of Pisa, in patients receiving chronic NSAIDs or low dose-acetylsalicylic acid (LD-ASA), with regard for the presence of risk factors of upper GI injury. **Methods:** We performed an observational study on patients discharged with chronic (> 3 months) NSAIDs or LD-ASA with or without prescription of PPIs at the University Hospital of Pisa, between 2008 and 2010. Demographic and clinical information where retrieved from hospital discharge records, while information about drug treatments were collected using the database of Drug Claims at the Health District of Pisa. Risk factors for NSAID-induced upper GI injuries included: age ≥ 65 years-old; concomitant therapies with anticoagulants or glucocorticoids; history of GI bleeding or peptic ulcer. Cases of inappropriate prevention of NSAID-related upper GI injuries were considered as follows: 1) any claim of PPIs in patients receiving NSAIDs or LD-ASA lacking at least one risk factor without other authorized indication for PPIs; 2) lack of claims for PPIs in patients receiving NSAIDs or LD-ASA with at least one risk factor. **Results:** Overall, 6869 patients, discharged with claims of NSAIDs in chronic or low-dose ASA during the observation period, were eligible for analysis: 2733 in 2008 [n=1281 for NSAIDs (mean age 63.5); n=1452 for LD-ASA (mean age 82.3)]; 1813 in 2009 [n=575 for NSAIDs (mean age 61.0); n=1238 for LD-ASA (mean age 80.7)]; 2323 in 2010 [n=563 for NSAIDs (mean age 60.8); n=1760 for LD-ASA (mean age 81.7)]. In patients without risk factors receiving chronic NSAIDs or LD-ASA, the rates of claims for PPIs were 15.5% and 37.6% in 2008, 11.7% and 38.9% in 2009, 16.5% and 40.0% in 2010, respectively. In patients with at least one risk factor receiving chronic NSAIDs or ASA, the rates of lack of claims for PPIs were: 36.8% and 42.9% in 2008, 68.5% and 36.0% in 2009; 63.9% and 36.1%, respectively. **Conclusions:** Upper GI protection with PPIs in patients receiving chronic NSAIDs or LD-ASA appears to be largely inappropriate, both for the lack of prescription in patients with risk factors and for prescription of PPIs in patients without risk factors. Despite a possible overestimation, due to potential misclassification biases, the trend over the observation period suggests an increase in the inappropriate management of upper GI protection.