Outcomes of an inpatient proton pump inhibitor stewardship program post hospital discharge

Rationale

Proton pump inhibitors (PPIs)
- Widely used and highly effective in the treatment of peptic ulceration, esophagitis and gastroesophageal reflux
- Often indicated for short-term treatment courses (< 8 weeks)1
- Greatly overused with studies suggesting that up to 84% of PPIs are prescribed (or continued chronically) outside of an evidence-based indication2
- Linked to an increased risk of 4:
  - enteric infections, including Clostridium difficile-associated diarrhea
  - community-acquired pneumonia
  - bone fracture
  - nutritional deficiencies
- Identified by the Beers Criteria as potentially inappropriate in the elderly3

PPi stewardship program
- Established in March of 2016 at the Lexington Veterans Affairs Medical Center (VAMC) to address concerns related to the overuse of PPIs
- See Figure 1

Methods

Study Design
- Retrospective cohort study
- Utilizing the computerized patient record system (CPRS) at the Lexington VAMC

Study Population
- Inclusion criteria:
  - All veterans admitted to an internal medicine service from 3/14/16 to 8/14/16 with an active outpatient prescription for a PPI

Definitions
- Success of the PPI stewardship program will be defined as:
  - Successful PPI de-escalation at 90 days post hospital discharge
  - Successful PPI discontinuation at 90 day post hospital discharge

Indications for Outpatient PPI Continuation

Acid-related indications
- Upper GI bleed
- Barrett’s esophagus
- Erosive esophagitis
- Peptic Ulcer Disease
- Hyper-secretory disorders
- Esophageal stricture
- Hospital admission for an acid-related disorder
- Documentation of the need for PPI therapy by the gastroenterology clinic

Medication-related indications
- Anticoagulation
- Chronic non-steroidal anti-inflammatory drugs
- Dual antiplatelet therapy
- Chronic steroids

Other indications
- Documentation of previous failed attempts to discontinue PPI therapy
- PPI use in Helicobacter pylori treatment regimens
- Previous esophageal or gastric surgery
- Chronic Kidney Disease Stage 4 or 5
- Active cancer

Preliminary Results

- 1,179 patients were evaluated as part of the PPI stewardship program
  - 44.6% (526) were on PPI therapy
  - 17.7% (93) did not meet the appropriate criteria for outpatient PPI therapy
- Successful PPI discontinuation at 90 day post hospital discharge
- The PPI stewardship program successfully reduced the rates of PPI overuse in the inpatient setting
  - 56.1% (23/41) successfully discontinued PPI therapy as a result of the PPI stewardship program
  - 84.2% (16/19) successfully de-escalated PPI therapy as a result of the PPI stewardship program
- Of the available data, only one complication related to the actions of the PPI stewardship program was discovered
  - One patient developed reflux esophagitis, prompting the resumption of PPI therapy

Preliminary Data

- Figure 2: PPI Stewardship Program Preliminary Success Rates

Preliminary Conclusions

- The PPI stewardship program resulted in successful outpatient intervention in ~65% patients
- The PPI stewardship program successfully reduced the rates of PPI overuse in the outpatient setting
- Complications from the PPI stewardship program appear minimal

References

- Helicobacter pylori - the current state of the art. Lancet. 1996;347(9003):1333-1338
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Disclosure Statement

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