FPIN's Clinical Inquiries

Deprescribing Chronic Use of Proton Pump Inhibitors

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Clinical Question

What is the most effective method for deprescribing chronic use of proton pump inhibitor (PPI) medications?

Evidence-Based Answer

Several deprescribing methods may provide limited success. Some patients may have a return of symptoms with abrupt discontinuation. (Strength of Recommendation [SOR]: B, placebo arms in randomized controlled trials [RCTs].) Changing the PPI prescription to as-needed dosing results in fewer pills being used (by about four pills per week), but with lower patient satisfaction and less symptom control. (SOR: A, meta-analysis.) Taking a PPI as needed decreases use in two-thirds of patients. (SOR: B, RCTs.) Adding a rescue histamine H_2 blocker may reduce the risk of restarting a PPI by about 80%. (SOR: B, secondary outcome in small RCTs.)

Evidence Summary

Deprescribing is recommended for patients with gastroesophageal reflux disease (GERD) who are low risk and are symptom-free after four weeks of PPI therapy. A systematic review and meta-analysis identified six RCTs (n = 1,758) of adults 48 years and older with nonerosive GERD or milder grades of reflux esophagitis (Los Angeles classification system for GERD grades A and B) comparing symptom control, pill burden, and patient satisfaction in patients deprescribed PPIs.[1] Researchers compared abrupt withdrawal and changing to as-needed treatment with continuing daily therapy. Researchers measured outcomes using symptom surveys. Compared with continuous PPI use, the as-needed PPI regimen had a higher risk of poorly controlled symptoms (relative risk [RR] = 1.71; 95% CI, 1.31 to 2.21) and reduced patient satisfaction (RR = 1.82; 95% CI, 1.26 to 2.65), although with a lower pill burden (mean difference = –3.79 pills per week; 95% CI, –4.73 to –2.84). One study (n = 105) examined abrupt discontinuation in an older study group (mean age = 73 years) who all had endoscopic evidence of erosive esophagitis. Symptoms returned in two-thirds of patients who abruptly stopped their PPI (67.9% vs. 22.4% for continuous use; RR = 3.02; 95% CI, 1.74 to 5.24). Trials were inconsistent in how they reported symptom control, the studies were not always blinded, and many trials had small sample sizes.

An earlier double-blind RCT (n = 288; not included in the systematic review) enrolled adult patients (mean age = 57 years) with mild nonerosive GERD controlled on at least six months of daily PPIs or H_2 blockers.[2] After a run-in period of 20 mg of pantoprazole daily, researchers randomized patients to a daily placebo with a rescue PPI or continuation of a PPI with a rescue placebo. The trial lasted 17 weeks. Among patients in the daily placebo arm, 67% completed the study, whereas 24% discontinued the study because of inadequate symptom relief. Of the patients in the placebo group who completed the study, 32% took daily rescue PPIs, 43% took some reduced dosage, and 25% used less than two pills per week. About 20% of patients in the placebo arm were satisfied with taking less than one PPI pill per week. The RCT was limited by a high drop-out rate during the run-in period and a lack of statistical analysis.

A more recent small RCT (n = 38) compared abrupt PPI discontinuation vs. tapering on rebound symptoms and sustained PPI cessation.[3] All patients had a clinical diagnosis of GERD and had been on a daily PPI for at least three months. Tapering occurred over two to four weeks depending on the initial PPI dosing. Patients in either arm of the study were

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allowed to use an H_2 blocker or calcium carbonate tablets as needed for comfort. At 12 months, 58% of patients were able to discontinue and stay off PPIs in both groups (*P* value between groups reported as not significant). Among secondary outcomes, researchers saw a 79% reduction in the risk of resuming PPI therapy in patients who used an H_2 blocker in either arm (hazard ratio = 0.210; 95% CI, 0.073 to 0.620; *P* = .004). Authors noted that the trial was underpowered, and GERD pathology was not confirmed using endoscopy.

Recommendations From Others

A 2017 evidence-informed, consensus guideline by the College of Family Physicians of Canada noted that prolonged use of PPIs resulted in unnecessary cost, polypharmacy, adverse drug interactions, and potential medical complications such as hypomagnesemia and hip fracture.[4] This guideline recommended that PPIs be deprescribed in adults who have completed at least four weeks of PPI therapy and have resolution of upper gastrointestinal symptoms. A PPI dose reduction or a change to on-demand use (strong recommendation, low-quality evidence) was also recommended. Changing to an H_2 blocker was considered a reasonable alternative (weak recommendation, moderate-quality evidence).

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