

PPI vs. H₂RA Comparison as Potential Risk Factors for Gastric Carcinoma

Long-term use of PPIs has been suspected to have a provocative effect on gastric cancer and this study was carried out to determine the association between PPI vs. histamine-2 receptor antagonist H₂RA use and the risk of gastric cancer in a region where the risk of this malignancy is high.

A population-based cohort study using the Korean National Health Insurance Service database was carried out with participants with first prescription of PPIs and H₂RA with normal endoscopy findings from 2004 through 2015 collected. Among them, 50% of participants were systematically stratified and randomly sampled. There were 122,118 users of PPIs or H₂RAs who used medication more than cumulative daily defined dose of 180 days. The users were followed up from long-term use threshold until gastric cancer, death from non-gastric cancer cause, gastric surgery, or study end (December 2017).

After calculating propensity score weights, 39,799 PPI and 38,967 H₂RA users were included. Among the new PPI and H₂RA users, 411 cases of incident gastric cancer were identified from 182,643 person/years of followup observation and 397 cases from 178,846 person/years of followup observation, respectively. Compared with H₂RA users, PPI users did not experience significantly different gastric cancer incidents (HR 1.01). Sensitivity analyses confirmed that gastric cancer incidence did not differ between PPI and H₂RA users.

Shin, G., Park, J., Hong, J., et al. "Use of Proton Pump Inhibitors vs Histamine 2 Receptor Antagonist for the Risk of Gastric Cancer: Population-Based Cohort Study." *American Journal of Gastroenterology*, 2021; Vol. 116, pp. 1211-1219.

Adverse Event Profile in Treatment of H. Pylori

To assess the frequency, type, intensity and duration of adverse events (AEs) and their impact on compliance for the most frequently used treatments in the "European Registry on Helicobacter Pylori Management," a systematic, prospective, noninterventional registry of the clinical practice of European gastroenterologists (27 countries, 300 investigators), on the management of H. pylori infection in routine clinical practice was evaluated.

All prescribed eradication treatments and their corresponding safety profiles were reported. AEs were classified, depending on the intensity of symptoms as mild/moderate/severe and as serious AEs. All data was subject to quality control.

The different treatments prescribed to 22,492 patients caused at least 1 AE in 23% of the cases; the classic bismuth-based quadruple therapy was the worst tolerated (37% of AEs). Taste disturbance 7%, diarrhea 7%, nausea 6%, and abdominal pain 3% were the most frequent AEs. The majority of AEs were mild (57%), 6% were severe and only 0.8% were serious with an average duration of 7 days. The treatment compliance rate was 97%. Only 1.3% of the patients discontinued treatment due to AEs. Longer treatment durations were significantly associated with a higher incidence of AEs in standard, triple, concomitant, bismuth quadruple, and levofloxacin triple or quadruple therapies.

It was concluded that HP eradication treatment frequently induces AEs, although they are usually mild and of limited duration. Their appearance does not interfere significantly with treatment compliance.

Nyssen, O., Perez-Aisa, A., Tepes, B., et al on behalf of the Hp-EuReg Investigators. "Adverse Event Profile During the Treatment of Helicobacter Pylori: A Real-World Experience of 22,000 Patients from the European Registry on H. Pylori Management (Hp-EuReg)." *American Journal of Gastroenterology*, 2021; Vol. 116, pp. 1220-1229.

(continued on page 86)

(continued from page 84)

Esophageal Dysmotility in Idiopathic Pulmonary Fibrosis

To understand the inter-relationships between esophageal motility, lung mechanics and reflux (particularly proximal reflux – a prerequisite of aspiration), and pulmonary function in patients with IPF, 35 patients were prospectively recruited with IPF, aged 53 to 75 years and 27 of whom were men. These underwent high-resolution impedance manometry and 24-hour pH-impedance, together with pulmonary function assessment.

A total of 22 patients (63%), exhibited dysmotility and 16 (73%) exhibited ineffective esophageal motility (IEM); 6 (27%) exhibited esophagogastric junction outflow obstruction.

Patients with IEM have more severe pulmonary disease and more proximal reflux than patients with normal motility. In patients with IEM, intrathoracic pressure adversely correlated with the number of proximal events. Surprisingly, inspiratory lower esophageal sphincter pressure (LESP) positively correlated with the percentage of reflux events reaching the proximal esophagus, whereas in patients with normal motility, it inversely correlated with a bolus exposure time and number of proximal events.

Percentage forced vital capacity in patients with IEM inversely correlated with

inspiratory LESP and positively correlated with intrathoracic pressure.

The study demonstrated that pulmonary function is worse in patients with IEM, which is associated with more proximal reflux events, the latter correlating with lower intrathoracic pressures and higher LESPs.

Cheah, R., Chirnakorn, S., Abdelrahim, A., et al. "The Perils and Pitfalls of Esophageal Dysmotility in Idiopathic Pulmonary Fibrosis." *American Journal of Gastroenterology*, 2021; Vol. 116, pp. 1189-1200.

Need for Second-Look Endoscopy with an Acute Peptic Ulcer Bleed

A meta-analysis to evaluate the usefulness of routine second-look endoscopy in patients with acute upper GI bleed because of peptic ulcer disease (PUD), with evidence of hemostasis was carried out. Several databases from inception to September 15, 2020 were evaluated to identify randomized controlled trials (RCTs) that compared routine second-look endoscopy with no planned second-look endoscopy in patients with upper GI bleed from PUD.



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(continued on page 88)

(continued from page 86)

The outcomes of interest included recurrent bleeding, mortality, need for surgery, and mean number of units of blood transfused. For categorical variables, pooled risk ratios were calculated (RRs), with 95% confidence intervals (CIs). For continuous variables, standardized mean difference was calculated with 95% CIs. Data was analyzed using a random effects model: the grading of recommendations, assessment, development and evaluation (GRADE) framework to ascertain the quality of the evidence.

Nine RCTs were included, comprising 1452 patients; 726 patients underwent planned routine second-look endoscopy and 726 did not. There was no significant difference in recurrent bleeding, need for surgery, mortality or mean number of units of blood transfused. Quality of evidence ranged from low to moderate, based on the GRADE framework.

It was concluded that single endoscopy with complete endoscopic hemostasis is not inferior to routine second-look endoscopy in reducing the risk of recurrent bleeding, mortality, or need for surgery in patients with acute upper GI bleed from PUD.

Kamal, F., Han, N., Lee-Smith, W., et al. "Role of Routine Second-Look Endoscopy in Patients With Acute Peptic Ulcer Bleeding: Meta-Analysis of Randomized Controlled Trials." *Gastrointestinal Endoscopy* 2021; Vol. 93, pp. 1228-1237.

Endoscopic Sleeve Gastroplasty in Treatment of NAFLD

A total of 118 patients with obesity and NAFLD (nonalcoholic fatty liver disease), underwent endoscopic sleeve gastroplasty (ESG) and were followed for 2 years. Weight loss was evaluated as percentage total body weight loss. Insulin resistance (IR) was evaluated using the homeostasis model assessment of insulin resistance (HOMA-IR).

Previously evaluated hepatic steatosis index and NAFLD fibrosis score were used to estimate hepatic steatosis and risk of fibrosis.

Lean body mass index was 40 kg/m². At baseline, 84% of patients completed 2 years of follow-up. At 2 years, the mean total body weight loss was 15.5%. Patients' HOMA-IR improved significantly from 6.7 average to 3 average after one week from ESG performance, with continued improvement up to 2 years. Patient's hepatic steatosis index score improved significantly, decreasing by 4 points per year. Patient's NAFLD fibrosis score improved significantly, decreasing by 0.3 per year. A total of 24 patients (20%), improved their risk of hepatic fibrosis from F3 to F4, or indeterminate to F0 to F2, whereas only 1% experienced an increase in the estimated risk of fibrosis.

It was concluded there was a significant and sustained improvement in estimated hepatic steatosis and fibrosis after ESG in patients with NAFLD and it was demonstrated early and weight-independent improvement in insulin resistance, which lasted for 2 years after the procedure.

Hajifathalkian, K., Mehta, A., Ang, B., et al. "Improvement in Insulin Resistance and Estimated Hepatic Steatosis and Fibrosis After Endoscopic Sleeve Gastroplasty." *Gastrointestinal Endoscopy* 2021; Vol. 93, pp. 1110-1118.

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