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INPLASY

Efficacy and Safety of Vonoprazan Versus Proton Pump Inhibitors for Erosive Esophagitis: A Systematic Review, Meta-Analysis

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ADMINISTRATIVE INFORMATION

Support - N/A.

Review Stage at time of this submission - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 September 2025 and was last updated on 19 September 2025.

INTRODUCTION

Review question / Objective To evaluate the efficacy and safety of vonoprazan compared with proton pump inhibitors (particularly lansoprazole) for the healing and maintenance of erosive esophagitis, and to explore dose- and duration-related effects using meta-regression.

Rationale Proton pump inhibitors are first-line therapy for erosive esophagitis, but up to 40% of patients have inadequate response, especially with severe disease. Vonoprazan, a novel potassium-competitive acid blocker, provides rapid and sustained acid suppression and may offer superior efficacy. However, the relative benefits of vonoprazan compared with PPIs, and the influence of dose and treatment duration, remain unclear.

Condition being studied Erosive esophagitis (EE), the most severe form of gastroesophageal reflux disease (GERD), characterized by mucosal breaks and inflammation of the esophagus.

METHODS

Search strategy We systematically made independent electronic searches in the PubMed, Embase, ClinicalKey, Cochrane CENTRAL, ProQuest, ScienceDirect, and Web of Science with keyword of ("Vonoprazan" OR "PCAB") AND ("Lansoprazole" OR "PPI") AND ("EE" OR "Erosive oesophagitis") AND ("Healing rate" OR "Maintenance therapy" OR "Recurrence rate")searched PubMed, Embase, Cochrane CENTRAL, Web of Science, ClinicalKey, ScienceDirect, and ProQuest from inception to March 31, 2025, using keywords “Vonoprazan” OR “PCAB” AND “Lansoprazole” OR “PPI” AND “Erosive esophagitis” OR “EE” AND “Healing rate” OR “Maintenance therapy.” ClinicalTrials.gov and reference lists of relevant reviews were also screened. No language restrictions were applied.

Participant or population Adults diagnosed with erosive esophagitis confirmed by endoscopy.

Intervention Vonoprazan at various doses (10–40 mg/day) for the treatment and maintenance of erosive esophagitis.

Comparator Lansoprazole or other conventional proton pump inhibitors at standard therapeutic doses.

Study designs to be included Randomized controlled trials.

Eligibility criteria Randomized controlled trials (RCTs) comparing vonoprazan with proton pump inhibitors for erosive esophagitis.

Information sources Electronic databases (PubMed, Embase, Cochrane CENTRAL, Web of Science, ClinicalKey, ScienceDirect, ProQuest) were searched up to March 31, 2025. Additional sources included ClinicalTrials.gov and manual reference checks of relevant reviews and eligible articles.

Main outcome(s) Primary outcomes were healing rate of erosive esophagitis and maintenance of healing (recurrence-free rate).

Additional outcome(s) Adverse events and changes in serum gastrin levels.

Data management Data were independently extracted by two reviewers using a standardized form, cross-checked for accuracy, and discrepancies resolved by discussion or a third reviewer.

Quality assessment / Risk of bias analysis Risk of bias was assessed using the Cochrane Risk of Bias 2 (RoB 2) tool. Two reviewers independently evaluated each study, and discrepancies were resolved by consensus or a third reviewer.

Strategy of data synthesis We will perform a meta-analysis using a random-effects model to calculate pooled odds ratios (ORs) with 95% confidence intervals. Heterogeneity will be assessed using I^2 statistics, and sensitivity analyses will be conducted.

Subgroup analysis Subgroup analyses will be conducted based on vonoprazan dosage and treatment duration.

Sensitivity analysis Sensitivity analyses will include leave-one-out analyses, exclusion of studies at higher risk of bias, and re-estimation with alternative models (fixed-effect vs random-effects) to test the robustness of pooled results.

Language restriction English.

Country(ies) involved Taiwan.

Keywords Vonoprazan; potassium-competitive acid blocker; Proton pump inhibitor; Gastroesophageal reflux disease; EE; Meta-analysisEndoscopic submucosal dissection, Wound closure, Prophylactic closure, Post-ESD bleeding.

Contributions of each author

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