Prevalence of Dabigatran-Induced Esophagitis on Upper Gastrointestinal Endoscopy: A Systematic Review and Meta-Analysis

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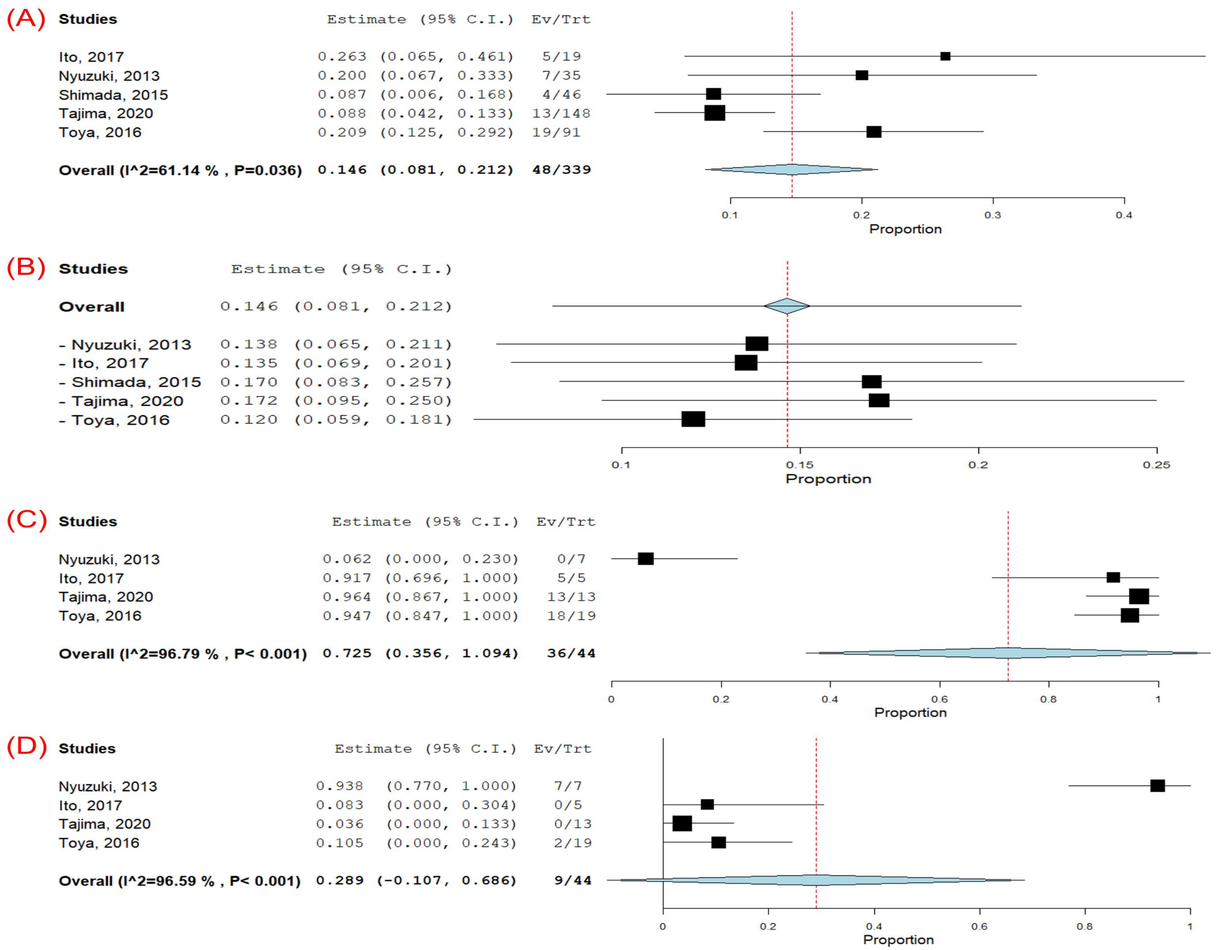

Introduction

- Dabigatran-induced esophagitis (DIE) has been reported increasingly recently in the literature.
- However, the exact prevalence of DIE is uncertain.
- Therefore, we performed a systematic review and meta-analysis to define and provide a quantitative assessment of the prevalence of DIE on endoscopy.

Methods and Materials

- A comprehensive literature search of PubMed/Medline, Embase, and Web of Science was conducted on April 01, 2022, to include all studies that reported the prevalence of DIE among patients undergoing upper endoscopy.
- Two independent reviewers (AB and RM) screened and shortlisted articles and performed data extraction.
- Any discrepancy was resolved by consensus.
- The statistical analysis was performed using Open Meta Analyst (CEBM, Oxford, UK).
- Pooled event rate and corresponding 95% confidence intervals (CI) were calculated using the random-effects model and DerSimonian Laird method.
- Heterogeneity was assessed using the Higgins I2 index (I2 values >50% implied the presence of significant heterogeneity).

Results

- Five retrospective cohort studies with 339 patients were included.
- All studies originated from Japan.
- The pooled prevalence rate of DIE was 15.5% (95% CI 0.096-0.239, I2=62.4%, Figure 1A).
- A leave-one-out sensitivity analysis showed similar results (Figure 1B).
- Four studies reported the detailed endoscopic features of DIE.
- All DIE occurred in the mid and/or lower esophagus.
- Longitudinal mucosal casts were the most common endoscopic feature, with a pooled rate of 82.2% (95% CI 0.254-0.984, I2=74.8%, Figure 1C).
- The pooled rate of mucosal erosions was 20.5% (95% CI 0.025-0.725, I2=72.5%, Figure 1D).

Conclusions

- Nearly 15% of patients receiving dabigatran were found to have dabigatran-induced esophagitis on endoscopy.
- Physicians should be cautious about using dabigatran in patients with a history of esophagitis or gastroesophageal reflux disease.
- Patients who receive dabigatran should undergo an upper endoscopy to evaluate for DIE if they develop gastrointestinal symptoms.
- Prospective, large-scale, multicenter studies are needed to further understand DIE.