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SYSTEMATIC REVIEWS AND META-ANALYSES

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Early Colonoscopy Does Not Improve Outcomes of Patients With Lower Gastrointestinal Bleeding: Systematic Review of Randomized Trials

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This article has an accompanying continuing medical education activity, also eligible for MOC credit, on page e93. Learning Objective–Upon completion of this activity, successful learners will be able to explain the optimal diagnostic evaluation of a patient presenting with acute lower gastrointestinal bleeding.

BACKGROUND & AIMS: **Guidelines recommend colonoscopy evaluation within 24 hours of presentation or admission in patients with high-risk or severe acute lower gastrointestinal bleeding (LGIB). Meta-analyses of the timing of colonoscopy have relied primarily on observational studies that had major potential for bias. We performed a systematic review of randomized trials to determine optimal timing of colonoscopy for patients hospitalized with acute LGIB.**

METHODS: **We searched publication databases through July 2019 and abstracts from gastroenterology meetings through November 2019 for randomized trials of patients with acute LGIB or hematochezia. We searched for studies that compared early colonoscopy (within 24 hours) with elective colonoscopy beyond 24 hours and/or other diagnostic tests. Our primary outcome was further bleeding, defined as persistent or recurrent bleeding after index examination. Secondary outcomes included mortality, diagnostic yield (identifying source of bleeding), endoscopic intervention, and any primary hemostatic intervention (endoscopic, surgical, or interventional radiologic). We performed dual independent review, data extraction, and risk of bias assessments. We performed the meta-analysis using a random-effects model.**

RESULTS: **Our final analysis included data from 4 randomized trials. Further bleeding was not decreased among patients who received early vs later, elective colonoscopy (relative risk [RR] for further bleeding with early colonoscopy, 1.57; 95% CI, 0.74–3.31). We did not find significant differences in the secondary outcomes of mortality (RR, 0.93; 95% CI, 0.05–17.21), diagnostic yield (RR, 1.09; 95% CI, 0.99–1.21), endoscopic intervention (RR, 1.53; 95% CI, 0.67–3.48), or any primary hemostatic intervention (RR, 1.33; 95% CI, 0.92–1.92).**

CONCLUSIONS: **In a meta-analysis of randomized trials, we found that colonoscopy within 24 hours does not reduce further bleeding or mortality in patients hospitalized with acute LGIB. Based on these findings, patients hospitalized with acute LGIB do not generally require early colonoscopy.**

Key words: Endoscopy; Stomach; Intestines; Comparison.

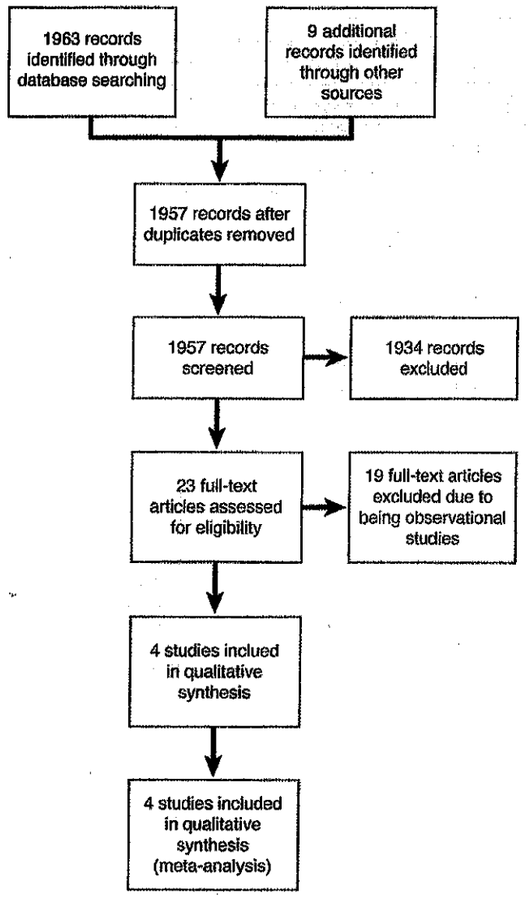

Figure 1. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) search and screening flow diagram.

Table 3. Meta-Analyses of 4 Randomized Trials (N = 463) Comparing Early vs Elective Colonoscopy for Acute Lower Gastrointestinal Bleeding

Outcomes	Relative risk (95% CI)	Heterogeneity I^2	Heterogeneity *P* value
Further bleeding	1.57 (0.74–3.31)	55	.08
Mortality	0.93 (0.05–17.21)	61	.11
Diagnostic yield	1.09 (0.99–1.21)	44	.15
Stigmata of recent hemorrhage	1.33 (0.97–1.82)	7	.36
Endoscopic intervention	1.53 (0.67–3.48)	64	.04
Any primary hemostatic intervention (endoscopic, surgical, or IR)	1.33 (0.92–1.92)	0	.61
Surgery or IR after initial intervention	1.17 (0.48–2.83)	0	.55
Adverse events	0.92 (0.36–2.36)	0	.73

IR, interventional radiology.

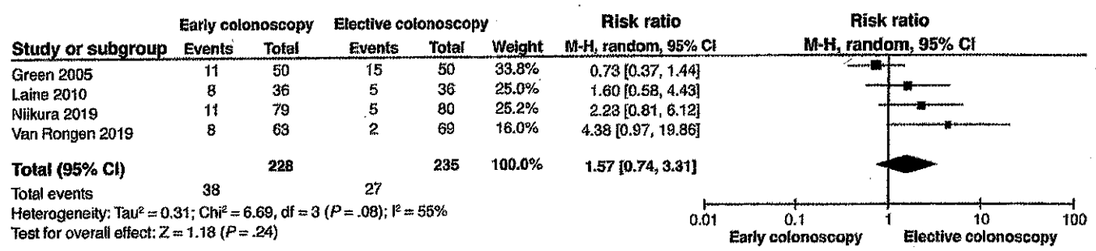

Figure 2. Forest plot for primary outcome of further bleeding. M-H, Mantel-Haenszel.

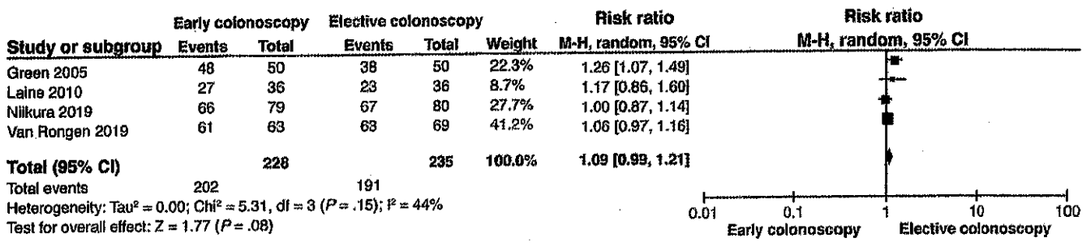

Figure 3. Forest plot for secondary outcome of diagnostic yield. M-H, Mantel-Haenszel.