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SYSTEMATIC REVIEW AND META-ANALYSIS

Safety and efficacy of over-the-scope clips versus standard therapy for high-risk nonvariceal upper GI bleeding: systematic review and meta-analysis

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Upper GI bleeding (GIB) is a common condition associated with significant morbidity and mortality. Endoscopic hemostasis remains the mainstay of therapy and is mainly aimed at effective hemostasis and prevention of rebleeding. Lesions with high-risk stigmata can have rebleeding rates as high as 26.3%. Rebleeding is associated with increased mortality and reduced success rates of endoscopic retreatment. The over-the-scope clip (OTSC) is a device with widespread endoscopic indications including hemostasis for nonvariceal upper GIB (NVUGIB). This study presents a systematic review and meta-analysis comparing OTSCs and standard therapy (STD) for NVUGIB. Multiple databases were searched through April 2022 for studies comparing OTSCs and STD for NVUGIB. The primary outcomes were clinical success rates, rebleeding rates, and procedure times, and secondary outcomes were mortality rates and length of hospitalization. Meta-analysis was performed to determine pooled odds ratios to compare outcomes between the OTSC and STD groups. Ten studies including 4 randomized controlled trials with 914 patients were included in the final analysis. In total, 431 patients with NVUGIB were treated with OTSCs, and 483 patients were treated with STD. Patients treated with OTSCs had an overall lower risk of 7-day rebleeding (risk ratio [RR], 0.41; 95% confidence interval [CI], 0.24-0.68; I² = 0%) and 30-day rebleeding (RR, 0.46; 95% CI, 0.31-0.65; I² = 0%). Clinical success rates were higher with OTSCs than STD (RR, 1.36; 95% CI, 1.06-1.75). The mean procedure time was shorter in the OTSC group by 6.62 minutes (95% CI, 2.58-10.67) versus STD (I² = 84%). There was no statistically significant difference in terms of mortality between the OTSC and STD groups (RR, 0.55; 95% CI, 0.24-1.24; I² = 0%). Length of hospitalization was comparable between both groups with the pooled mean difference for OTSCs versus STD at 0.87 days (-1.62 days to 3.36 days; I² = 71%). Although the study is limited to high-risk NVUGIB, the analysis shows that hemostasis with OTSCs is associated with a lower 7-day rebleeding rate and a 30-day rebleeding rate, higher clinical success rates, and shorter procedure time with similar mortality rates and length of hospital stay compared with STD.

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SYSTEMATIC REVIEW AND META-ANALYSIS

Clip closure to prevent adverse events after EMR of proximal large nonpedunculated colorectal polyps: meta-analysis of individual patient data from randomized controlled trials

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After EMR, prophylactic clipping is often performed to prevent clinically significant post-EMR bleeding (CSPEB) and other adverse events (AEs). Prior evidence syntheses have lacked sufficient power to assess clipping in relevant subgroups or in nonbleeding AEs. The authors performed a meta-analysis of individual patient data (IPD) from randomized trials assessing the efficacy of clipping to prevent AEs after EMR of proximal large nonpedunculated colorectal polyps (LNPCPs) ≥ 20 mm. The authors searched EMBASE, MEDLINE, Cochrane Central Registry of Controlled Trials, and PubMed from inception to May 19, 2021. Two reviewers screened citations in duplicate. Corresponding authors of eligible studies were invited to contribute IPD. A random-effects 1-stage model was specified for estimating pooled effects, adjusting for patient sex and age and for lesion location and size, whereas a fixed-effects model was used for traditional meta-analyses. From 3145 citations, 4 trials were included, representing 1248 patients with proximal LNPCPs. The overall rate of CSPEB was 3.5% and 9.0% in clipped and unclipped patients, respectively. IPD were available for 1150 patients, in which prophylactic clipping prevented CSPEB with an odds ratio (OR) of 0.31 (95% confidence interval [CI], 0.17-0.54). Clipping was not associated with perforation or abdominal pain, with ORs of 0.78 (95% CI, 0.17-3.54) and 0.67 (95% CI, 0.20-2.22), respectively. Prophylactic clipping is efficacious in preventing CSPEB after EMR of proximal LNPCPs. Therefore, clip closure should be considered a standard component of EMR of LNPCPs in the proximal colon.

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