Background

Resection of colorectal lesions larger than 20mm is complex and requires advanced endoscopic techniques such as endoscopic mucosal resection (EMR). Adenoma recurrence is a limiting factor especially due to micro-adenomas at the margin of the EMR mucosal defect site. This systematic review and meta-analysis aimed to determine the efficacy of thermal ablation of mucosal defect margins after EMR in reducing adenoma recurrence.

Methods

A comprehensive, computerized literature search from the PubMed Central, Embase, Cochrane Library, and OVID was performed with the following search terms: coagulation, mucosal defect margin, endoscopic mucosal resection, and adenoma recurrence. Three cohort studies were selected and validated using the Newcastle-Ottawa criteria. Pooled data were combined under a random-effects model. The Cochrane Review Manager Software version 5.3 was used for all analyses.

Results

Three cohort studies comprising of 361 patients were analyzed. In the random-effects model, the pooled odds ratio (OR) of adenoma recurrence was 0.22 (95% CI 0.13-0.39; I² = 0%) (IDDF2021-ABS-0119, Figure 1). The pooled data of the three studies showed a trend towards a beneficial effect of thermal ablation of mucosal defect post-endoscopic mucosal resection in reducing the risk of adenoma recurrence.

Conclusions

Thermal ablation of the mucosal defect margins was shown to have a decreased risk of adenoma recurrence after endoscopic mucosal resection. However, further prospective randomized studies are recommended to confirm this relationship.