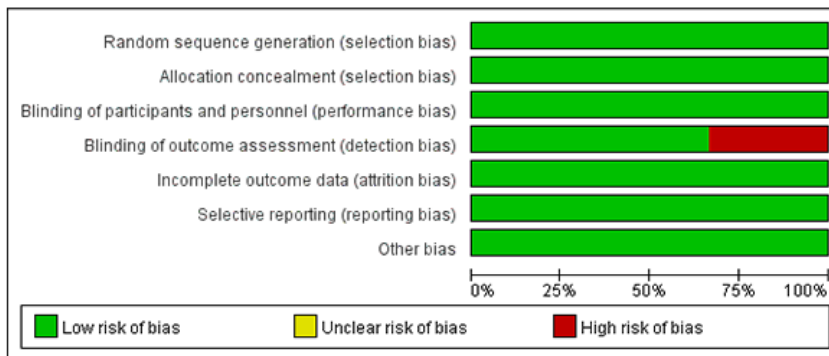


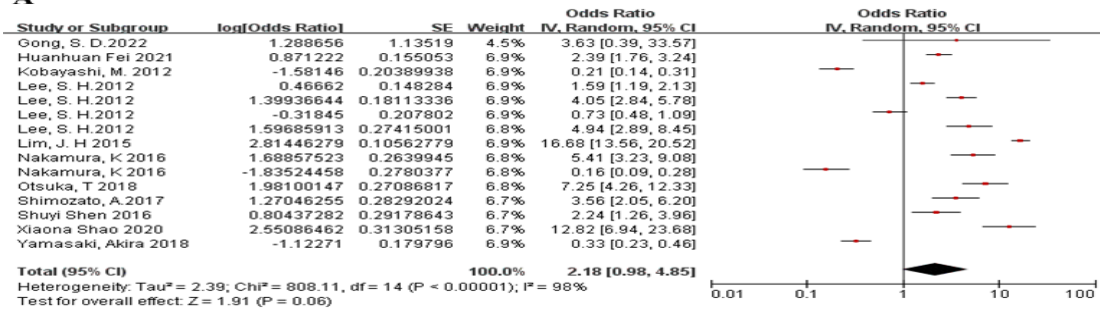
A

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Kobayashi, M, 2012	+	+	+	+	+	+	+
Lee, S. H, 2012	+	+	+	●	+	+	+
Nakamura, K, 2016	+	+	+	+	+	+	+

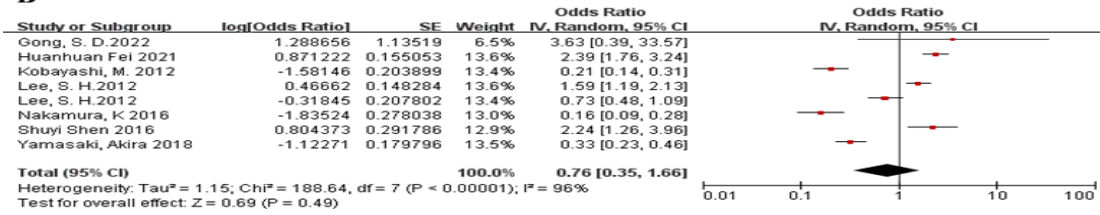
B

Supplementary Figure 1 Quality assessment of three randomized controlled trials. A: Risk of bias graph; B: Risk of bias summary.

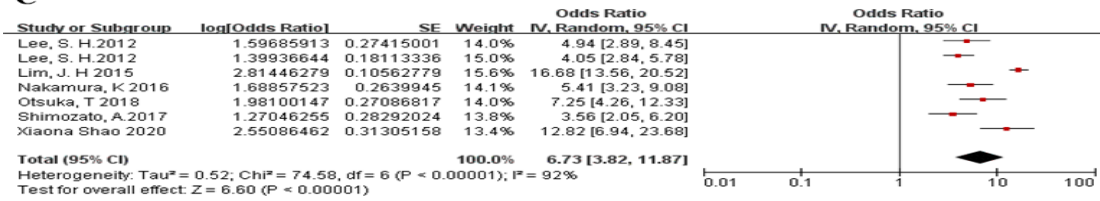
A



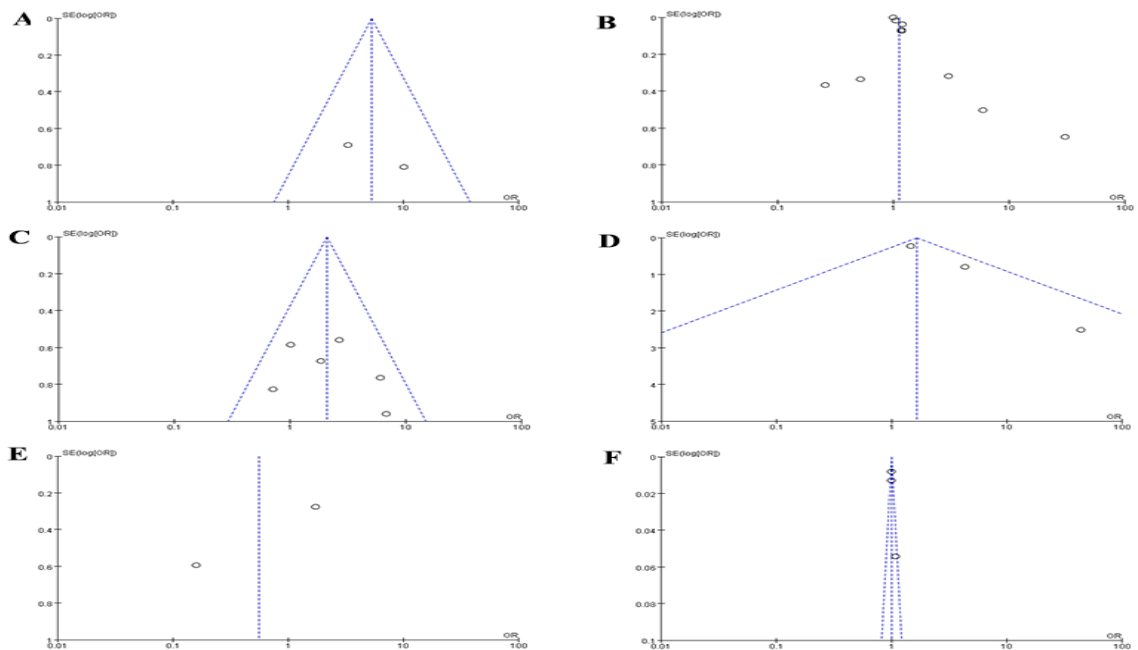
B



C



Supplementary Figure 2 Forest plots of ulcer healing rate. A: Forest plots of overall ulcer healing rate; B: < 8 weeks for ulcer healing rate; C: ≥ 8 weeks for ulcer healing rate.



Supplementary Figure 3 Funnel plots of viroic risk factor. A: *Helicobacter*

pylori infection; B: Ulcer size; C: Lesion site; D: Pathology of lesion; E: Diabetes;
F: Duration of operation.

Supplementary Table 1 Detailed search strategy in three databases

Database	Search strategy
PubMed	(endoscopic submucosal dissection) OR (ESD) OR (Dissection, Endoscopic Submucosa) OR (Submucosal Dissection, Endoscopic) AND (ulcer) OR (scar) OR (mucosal healing) OR (ulcer healing) AND (Risk factors) OR (influence factor)) OR (relevance factors) OR (prevalence incident) OR (epidemiolog) OR (Clinical characteristics) OR (clinical analysis)
Embase	<p>“Endoscopic submucosal dissection”/exp OR “endoscopic submucosal dissection” OR (endoscopic) AND submucosal AND (‘dissection’/exp OR dissection)</p> <p>‘ulcer’/exp OR ulcer OR ‘scar’/exp OR scar OR ‘mucosal healing’/exp OR ‘mucosal healing’ OR (mucosal) AND (‘healing’/exp OR healing) OR ‘ulcer healing’/exp OR ‘ulcer healing’ OR (‘ulcer’/exp OR ulcer) AND (‘healing’/exp OR healing)</p> <p>‘risk factors’/exp OR ‘risk factors’ OR (‘risk’/exp OR risk) AND factors) OR ‘influence factor’ OR (influence AND factor) OR ‘relevance factors’ OR (relevance AND factors) OR epidemiolog OR ‘prevalence incident’ OR (‘prevalence’/exp OR prevalence) AND incident) OR ‘clinical characteristics’/exp OR ‘clinical characteristics’ OR (‘clinical’/exp OR clinical) AND characteristics) OR ‘clinical analysis’/exp OR ‘clinical analysis’ OR (‘clinical’/exp OR clinical) AND (‘analysis’/exp OR analysis)</p>

Web of Science	<p>4 1 AND 2 AND 3</p> <p>1 TS = (endoscopic submucosal dissection) OR TS = (ESD) OR TS = (Dissection, Endoscopic Submucosa) OR TS = (Submucosal Dissection, Endoscopic) and Preprint Citation Index (Exclude Database)</p> <p>2 TS = (ulcer) OR TS = (scar) OR TS = (mucosal healing) OR TS = (ulcer healing) and Preprint Citation Index (Exclude Database)</p> <p>3 TS = (Risk factors) OR TS = (influence factor) OR TS = (relevance factors) OR TS = (epidemiolog) OR TS = (prevalence incident) OR TS = (Clinical characteristics) OR TS = (clinical analysis) and Preprint Citation Index (Exclude Database)</p> <p>4 3 AND 2 AND 1 and Preprint Citation Index (Exclude Database)</p>
Cochrane	<ol style="list-style-type: none"> 1. MeSH descriptor: [Endoscopic Mucosal Resection] this term only 2. ESD or Dissection, Endoscopic Submucosa or Submucosal Dissection, Endoscopic 3. 1 or 2 4. Ulcer or scar or mucosal healing or ulcer healing 5. Risk factors or influence factor OR relevance factors or epidemiolog or prevalence incident or Clinical characteristics or clinical analysis 6. 3 and 4 and 5

CNKI database	Topic: (Endoscopic submucosal dissection or Endoscopic mucosal dissection or ESD) and Topic: (Ulcer or Ulcer healing or Mucosal healing) and Topic: (Incidence or Epidemiology or Risk Factors or Associated Factors or Influential Factors or Clinical Features or Clinical Analysis)
Wan-fang database	Topic: (Endoscopic submucosal dissection or Endoscopic mucosal dissection or ESD) and Topic: (Ulcer or Ulcer healing or Mucosal healing) and Topic: (Incidence or Epidemiology or Risk Factors or Associated Factors or Influential Factors or Clinical Features or Clinical Analysis)
VIP database	Title or Keyword: (Endoscopic submucosal dissection or Endoscopic mucosal dissection or ESD) and Title or Keyword:(Ulcer or Ulcer healing or Mucosal healing) and Title or Keyword: (Incidence or Epidemiology or Risk Factors or Associated Factors or Influential Factors or Clinical Features or Clinical Analysis)

Supplementary Table 2 Quality evaluation of the eligible prospective cohort study with Newcastle–Ottawa scale

Ref.	Selection		Comparability			Outcome				
	Representativeness	Selecti on of non-	Ascertainm ent exposure	Outco me not present	Comparabil ity on most important	Comparabil ity on other risk factors	Assessme nt outcome	Long of h	Adequacy (completene ss)	of

	expose		at start	factors			follo	follow-up
	d						w-up	
Gong <i>et al</i> [20]	1	1	1	-	1	1	-	1
Lim <i>et al</i> [9]	1	1	1	-	1	1	1	1
Otsuka <i>et al</i> [24]	1	1	1	-	1	1	1	1
Shimoza <i>to et al</i> [25]	1	1	1	-	1	1	1	1
Shen <i>et al</i> [26]	1	1	1	-	1	1	-	1
Yamasa <i>ki et al</i> [28]	1	1	1	-	-	1	1	1

¹Indicates criterion met, indicates significant of criterion not met.

Supplementary Table 3 Quality evaluation of the eligible case control study with Newcastle-Ottawa scale

Ref.	Selection		Comparability			Outcome			
	Definitive adequacy	Representativeness of the cases	Selection of controls	Definitive of controls	Comparability on most important factors	Comparability on other risk factors	Ascertainment of exposure	Same method of ascertainment	Non- Response rate
Fei <i>et al</i> [21]	1	1	1	1	-	1	1	1	-
Huang <i>et al</i> [22]	1	1	1	1	-	1	1	1	-
Shao <i>et al</i> [27]	1	1	1	1	-	-	1	1	1

¹Indicates criterion met, indicates significant of criterion not met.