Thieme

Supplementary material

SUPPLEMENTARY MATERIALS

Efficacy and safety of endoscopic ultrasound (EUS) guided pancreatic duct drainage: a systematic review and meta-analysis of 714 patients

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SUPPLEMENTARY MATERIALS LEGEND

Supplementary Table 1 Study and population characteristics.

Supplementary Table 2 EUS-PDD adverse events.

Supplementary Table 3 Study quality assessment.

Supplementary Fig. 1 PRISMA study selection flowchart. From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

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Appendix 2 MOOSE checklist. From: Stroup DF, Berlin JA, Morton SC et al. for the Meta-analysis Of Observational Studies in Epidemiology (MOOSE) Group. Meta-analysis of Observational Studies in Epidemiology: A Proposal for Reporting. JAMA. 2000;283(15):2008-2012. doi: 10.1001/jama.283.15.2008

Appendix 3 PRISMA checklist. From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Supplementary material

Supplementary Table 1 Study and population characteristics.

Name	Study information	Mean age (years)	Male/ female	Total patients	Total procedures	Malignant	Benign	Indications	Reasons for failed cannulation	Main pancreatic duct diameter (mm)	Route of access (tg: trans gastric; td: trans duodenal; rz: rendezvous)	Technical success (success of pancreatogram/PD wire/Duodenal wire)	Clinical success	PD drained	Route of drainage (ad: anterograde drainage, rd: retrograde drainage, tl: transluminal)	Lost to f/u	F/U time
Barkay, 2010	Retrospective, single center, Mar 1999 to Jan 2009, Israel	45 (21-71)	6/15	21	NR	0	21	NR	6 sphincter stenosis, 6 anastomotic stricture, 2 pancratic duct stricture, 5 minor papilla not found, 2 others	> 4 mm (14 n), Normal (7 n)	NR	10	8	18	NR	NR	NR
Chen, 2017	Retrospective, multicenter, Jan 2010 to Aug 2015, USA Europe Asia South America.	58.7 (11.9)	22/18	40	40	NR	42	Benign anastomotic stricture = 17, chronic pancreatitis = 7, dilated MPD=9, others=7	All post Whipples surgery	5.8 (2)	NR	37	35	39	15 ad, 3 rd, 21tl	NR	7.8m (IQR 17.1)
Dalal, 2020	Retrospective, single center, Jan 2013 to Dec 2018, India.	43.5 (10.6)	29/15	44	46	NR	NR	38 - pain due to chronic pancreatitis, 6 - ascites due to disrupted duct	15 - obstructing stone, 11 - tight stricture, 5 disrupted duct, 4 pancreatic divisum, 4 diverticulum	5.8 (2.7–8.3)	18 tg, 3 td, 23 rz	39	36	39	NR	0	NR
Ergun, 2011	Retrospective, single center, Jan 2000 to Nov 2009, Belgium	36 - 78	14/6	20	24	8	12	Chronic pancreatitis - 10, post Whipple Symptomatic anastomatic stricture - 10	NR	8.1 (4.1)	12 tg, 3 td, 5 rz	18	13	18	13 ad, 5 rd, 15 tl	NR	37m (3-120)
Fujii, 2013	Retrospective, single center, Jan 2006 to Dec 2012, USA	57 (16)	24/21	43	45	1	44	Recurrent acute pancreatitis - 30, chronic pancreatitis - 8, pancreatic duct leak - 3, abdominal pain and dilated MPD - 23, weight loss - 8 and steatorrhea - 5	29 prior pancreatic surgery strictures, 9 pancreatic divisum	5.9 (2.3)	41 tg, 1 td	32	30	32	18 ad, 14 rd	3	37m (12-72)
Godat, 2019a	Retrospective, multicenter, Apr 2016 to Mar 2019, Switzerland	56	34/12	46	NR	NR	NR	NR	NR	6 (3-18)	NR	42	39	NR	NR	NR	NR
Hasegawa, 2019a	Retrospective, single center, Oct 2010 to Apr 2019, Japan.	68 (39-78)	10/4	14	NR	1	13	Recurrent acute pancreatitis	10 chronic pancreatitis related duct stricture, 2 anastomotic stricture, 1 malignancy, 1 other	NR	7 rz	12	12	NR	7rz	NR	NR
Honjo, 2018	Retrospective, multicenter, Apr 2015 to Mar 2016, Japan.	68.9 (13.8)	NR	15	NR	1	14	NR	11 anastomotic stricture, 3 chronic pancreatis related duct stricture, 1 malignancy	NR	NR	14	13	NR	NR	0	NR
Kahaleh, 2007	Retrospective, single center, Jan 2002 to Jul 2005, USA	54 (12)	5/8	13	NR	1	12	7 surgical stricture, 5 pancreatitis, 1 IPMN	3 chronic pancreatitis related duct stricture, 1 malignancy, 2 others	5.7 (4.9)	NR	10	NR	NR	13 tl stenting	1	NR
Kato, 2016a	Retrospective, single center, Japan	65	10/2	12	NR	5	7	4 chronic pancreatitis, 3 postsurgical stricture, 5 malignancy	NR	NR	NR	10	10	NR	NR	NR	147 days (18 - 414)
Kurihara, 2013	Retrospective, single center, Feb 2010 to Apr 2012, Japan	64.6 (54-81)	8/6	14	17	0	17	Acute pancreatitis - 14, abdominal pain - 2, chronic pancreatitis - 1	14 pancreatoduodenostomy & pancreatojejunostomy strictures	4.94 mm (Calculated)	11 rz, 3 tg	15	15	15	1 ad, 11 rd, 15 tl	NR	NR
Lee, 2012a	single center, Jun 2007 to Jun 2011,	NR	NR	29	NR	NR	NR	NR	NR	7.6 (2.5-31)	22 tg, 4 td, 2 rz	26	18	NR	NR	1	378 days (8-821)
Matsunami, 2018	Retrospective, single center, Aug 2013 to Apr 2017, Japan	60.6 (14.3)	14/16	30	NR	2	28	Acute recurrent pancreatitis due to: 21 anastomotic stenosis, 6 chronic pancreatitis, 1 pancreatic divisum, 2 pancreatic cancer	9 tight strictures, 21 site inaccessible (5 had disconnected pancreatic duct)	3.5 ± 2.9 (1 – 14) mm		30	30	NR	NR	5	23m (6-44)
Oh, 2016	Retrospective, single center, Jul 2013 to Dec 2014, Japan	53 (41-65.5)	16/9	25	NR	NR	NR	15 recurrent acute pancreatitis, 10 chronic pancreatitis	13 tight MPD strictures, 10 surgically altered anatomy, 2 duodenal obstruction	5.1 (IQR 4.4-7.85)	23 tg, 1 td, 1 tj	25	25	NR	NR	5	221.1 (190.48)d
Oh, 2019	Retrospective, single center, Dec 2014 to Sep 2017	63 (51-69)	12/11	23	NR	9	14	symptomatic strictures	13 pancreaticoduodenectomy, 10 pylorus-preserving pancreaticoduodenectomy	4.8 (3.8-6.3)	22 tg	23	23	NR	6tl, 17rz	3	NR

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	USA							pancreatic duct leak=1												
Tessier, 2007	Retrospective, multicenter, Sep 2000 to Dec 2004, Belgium	51.2 (14-71)	22/14	36	36	9	27	Chronic pancreatitis - 20, stricture - 12, acute pancreatitis - 3, trauma - 1	9 tight stricture, 3 complete rupture of MPD, 1 obstructive stone, 1 prior surgery, 1 cystic dystrophy, 2 failed cannulation of minor papilla, 12 post surgery anastomotic stricture	NR	26 tg, 7 td	33		25	33	36 tl stenting	6	14.5m (4-55)		
Trikudanathan, 2019a	Retrospective, single center, Oct 2010 to Nov 2018, USA	54	22/34	56	63	NR	NR	NR	NR	5.6 (0.9-11)	48 rz, 8 tg	51		NR	NR	NR	NR	NR	NR	NR
Tyberg, 2017	Retrospective, multicenter, Jan 2006 to Dec 2015, USA France Brazil	58.2 (15.5)	50/30	80	80	66	14	Pain: 50; pancreatitis: 30	6 malignant stricture, 4 benign stricture, 29 chronic pancreatitis related benign ducgt stricture, 35 anastomotic stricture, 6 pancreatic divisum	NR	75 tg, 5 td, 16 rz	71		65	71	51 ad, 20 rd, 57 tl	10	24m (3-108)		
Uchida, 2018	Retrospective, single center, Sep 2012 to Dec 2017, Japan	43 - 88	11/4	15	15	7	8	6 anastomotic stricture, 2 chronic pancreatitis stricture, 7 malignant obstructive pancreatitis	NR	8.4	NR	13		12	NR	NR	NR	7.4m		
Vila, 2012	Retrospective, multicenter, Sep 2010, Spain	69.03 (11.24)	11/8	19	19	13	6	NR	NR	NR	5 tg	11		NR	11	5 tl	5	NR		
Will, 2015	Retrospective, single center, Jun 2002 to Apr 2014, Germany	54 (28-87)	60/34	94	111	NR	NR	35 chronic pancreatitis, 30 postsurgical fluid retention	15 pancreatic divisum, 9 disconnected pancreatic tail, 5 persistent post op fistula	NR	26 tg/td, 21 rz	111		68	52	26tl, 21rz	2	9.5m (1-82)		

PD, pancreatic duct; tg, transgastric; td, transduodenal; tl, transluminal; rz, rendezvous; NR, not reported

Supplementary material

Supplementary Table 2 EUS-PDD adverse events.

Name	Total patients (include 10 and above)	Total number of adverse events (n)	Pancreatitis	Bleeding	Perforation/ pneumoperitoneum	Pancreatic leak/PFC	Infection	Post-procedure abdominL pain (requiring hospitalization)	Other/miscellenous complications	Stent-related AE	Reintervention	ASGE adverse events lexicon; Mild (procedure aborted, post procedure medical consultation, unplanned hospital admission or prolongation of hospital stay < 3 nights)	Moderate (unplanned vent support, unplanned admission or prolongation of stay 4-10 days, ICU admission for 1 night, transfusion, repeat endoscopy, IR intervention, intervention for integument injuries)	Severe (unplanned admission for > 10 nights, ICU > 1 night, surgery for AE, permanent disability)
Barkay, 2010	21	2	0	0	0	0	1	NR	1 stripping of wire	NR	NR	2	0	0
Chen, 2017	40	15	0	0	0	0	1	13	1 abdominal abscess	1	0	8	8	0
Dalal, 2020	44	10	2	1	0	0	0	4	1 stripping of wire	12 block, 5 migration	NR	10	0	0
Ergun, 2011	20	2	0	1	0	0	0	0	1 perigastric collection	9	4	11	0	0
Fujii, 2013	43	3	1	0	0	0	1	13	1 peripancreatic abscess	8 stent dysfunction	2	13	3	0
Godat, 2019a	46	10	NR	NR	NR	NR	NR	NR	NR	NR	NR	5	0	5
Hasegawa, 2019a	14	5	2	0	0	0	0	NR	NR	NR	NR	5	0	0
Honjo, 2018	15	3	0	0	0	0	0	2	None	NR	NR	0	1	0
Kahaleh, 2007	13	2	0	1	2	0	0	NR	None	NR	NR	0	2	0
Kato, 2016a	12	2	0	2	0	0	0	NR	None	3 migration	NR	0	2	0
Kurihara, 2013	14	1	0	0	0	0	0	NR	1 aneurysm/ pseudocyst	NR	NR	0	1	0
Lee, 2012a	29	2	0	0	2	0	0	0	NR	4 migration, 6 occlusion	NR	NR	NR	NR
Matsunami, 2018	30	2	1	1	0	0	0	5	None	6 stent dislodgement		5	1	1
Oh, 2016	25	1	0	1	0	0	0	4	None	0		5 (early)	0	0
Oh, 2019	23	4	0	0	0	1	0	3	None	1 occlusion, 3 stent fracture, 1 migration		0	0	0
Shah, 2012	25	4	3	0	1	0	0	NR	0	NR	NR	NR	NR	NR
Tessier, 2007	36	5	1	1	0	0	0	NR	3	11 obstruction, 16 migration, 1 fracture	6	3	0	2

Supplementary material

Trikudanathan, 2019a	56	8	8	0	0	0	0	NR	NR	NR	NR	0	6	2
Tyberg, 2017	80	25	8	1	2	2	4	4	None	NR	NR	5	19	1
Uchida, 2018	15	4	0	1	0	1	0	NR	1 peritonitis	1 stent migration	4	2	2	0
Vila, 2012	19	1	0	0	0	0	0	NR	0	NR	NR	NR	NR	NR
Will, 2015	94	24	0	6	1	0	0	NR	None	2 dislocation, 2 occlusions	17	2	20	2

EUS-PDD, endoscopic ultrasound-guided pancreatic duct drainage; PFC, pancreatic fluid collection; ICU, intensive care unit; AE, adverse event; NR, not reported.

Supplementary material

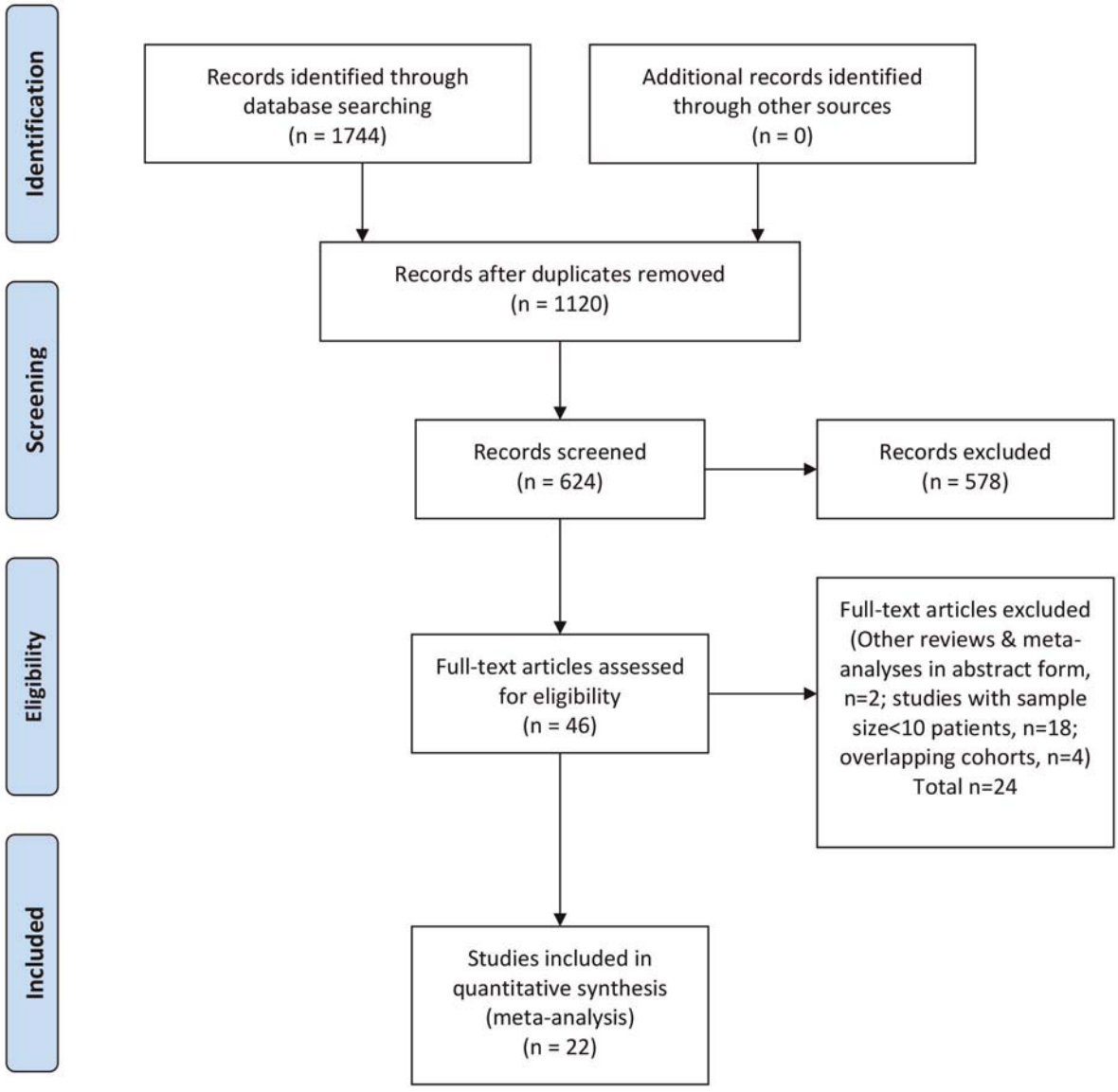
Supplementary Table 3 Study quality assessment.

Study	Selection Representativeness of the average adult in community Population based: 1; Multicenter: 0.5; Single-center: 0	Cohort size ➢ 40 patients: 1; 39 to 20: 0.5; < 20: 0	Information on clinical outcomes Information with clarity: 1; Information derived from percentage value: 0.5; unclear: 0	Outcome not present at start not present: 1; present: 0	Comparability Factors comparable between the groups yes: 1; no: 0	Outcome Adequate clinical assessment yes: 1; no: 0	Follow up time yes: 1; not mentioned: 0	Adequacy of follow-up All patients followed up: 1; >50% followed up: 0.5; <50% followed up OR not mentioned: 0	Score Max = 8	Quality High > 6, medium 4 to 6, low < 4
Barkay, 2010	0	0.5	1	1	1	1	0	0	**4.5**	**Medium**
Chen, 2017	0.5	1	1	1	1	1	1	0	**6.5**	**High**
Dalal, 2020	0	1	1	1	1	1	0	1	**6**	**Medium**
Ergun, 2011	0	0.5	1	1	1	1	1	0	**5.5**	**Medium**
Fujii, 2013	0	1	1	1	1	1	1	0.5	**6.5**	**High**
Godat, 2019a	0.5	1	1	1	1	1	0	0	**5.5**	**Medium**
Hasegawa, 2019a	0	0	1	1	1	1	0	0	**4**	**Medium**
Honjo, 2018	0.5	0	1	1	1	1	0	1	**5.5**	**Medium**
Kahaleh, 2007	0	0	1	1	1	1	0	0.5	**4.5**	**Medium**
Kato, 2016a	0	0	1	1	1	1	1	0	**5**	**Medium**
Kurihara, 2013	0	0	1	1	1	1	0	0	**4**	**Medium**
Lee, 2012a	0	0.5	1	1	1	1	1	0.5	**6**	**Medium**
Matsunami, 2018	0	0.5	1	1	1	1	1	0.5	**6**	**Medium**
Oh, 2016	0	0.5	1	1	1	1	1	0.5	**6**	**Medium**
Oh, 2019	0	0.5	1	1	1	1	0	0.5	**5**	**Medium**
Shah, 2012	0	0.5	1	1	1	1	0	0	**4.5**	**Medium**
Tessier, 2007	0.5	0.5	1	1	1	1	1	0.5	**6.5**	**High**
Trikudanathan, 2019a	0	1	1	1	1	1	0	0	**5**	**Medium**
Tyberg, 2017	0.5	1	1	1	1	1	1	0.5	**7**	**High**
Uchida, 2018	0	0.5	1	1	1	1	1	0	**5.5**	**Medium**
Vila, 2012	0.5	0.5	1	1	1	1	0	0.5	**5.5**	**Medium**
Will, 2015	0	1	1	1	1	1	1	0.5	**6.5**	**HIGH**

Supplementary material

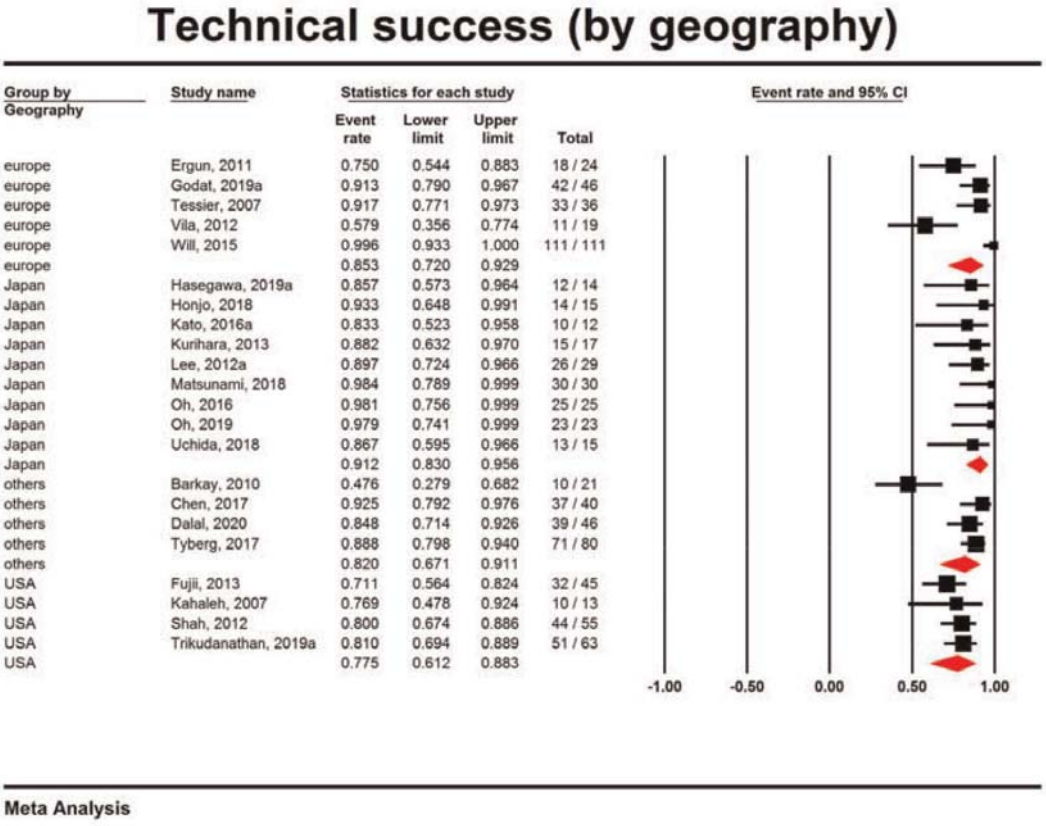
Supplementary Fig. 1 PRISMA study selection flowchart. From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

PRISMA 2009 Flow Diagram



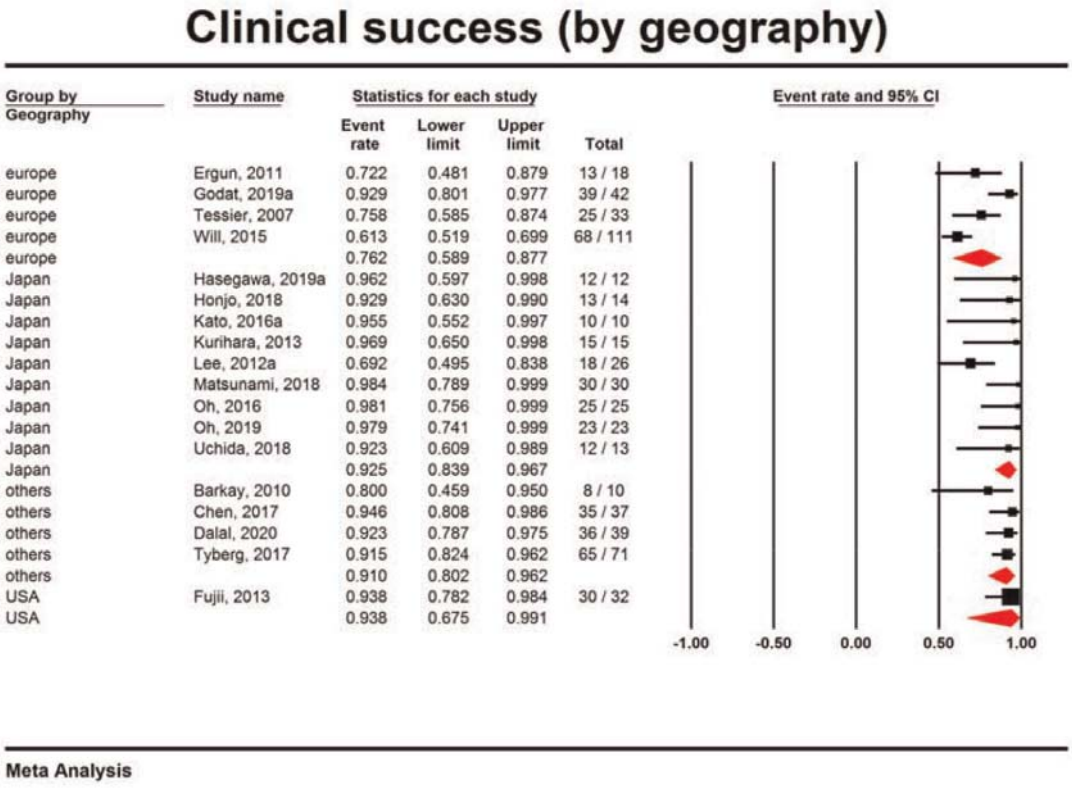
Supplementary material

Supplementary Fig. 2 Forest plot of technical success of subgroups by geography.



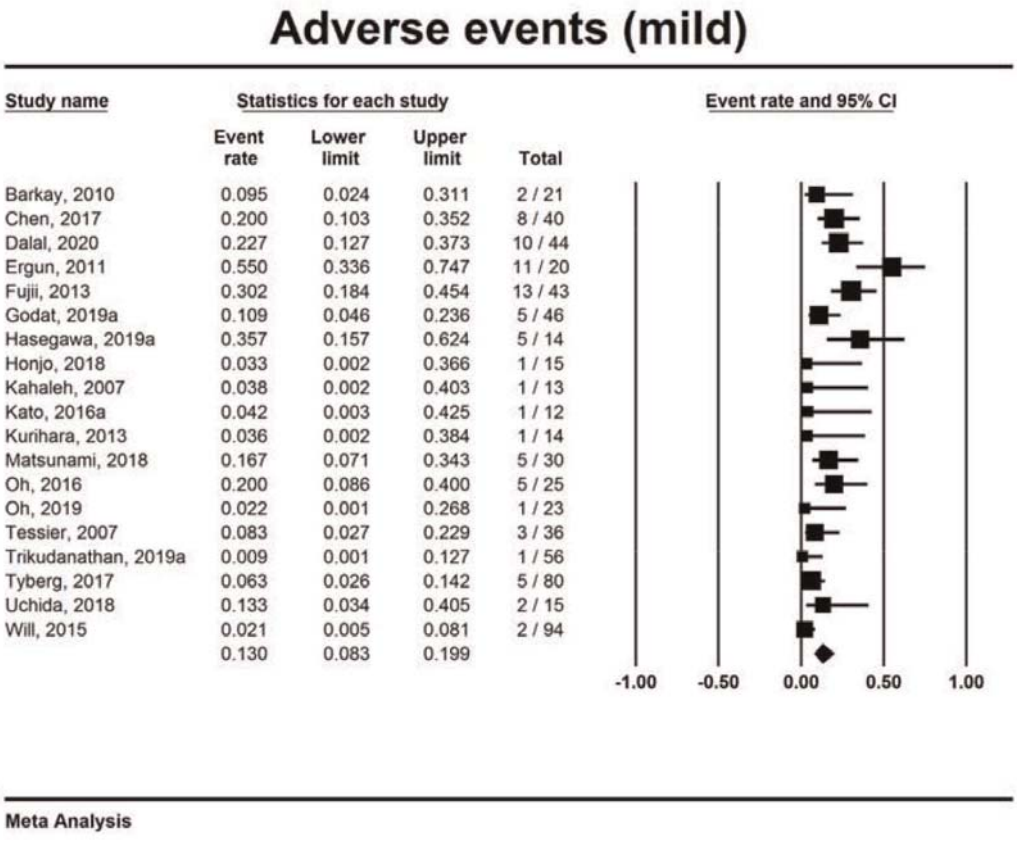
Supplementary material

Supplementary Fig. 3 Forest plot of clinical success of subgroups by geography.



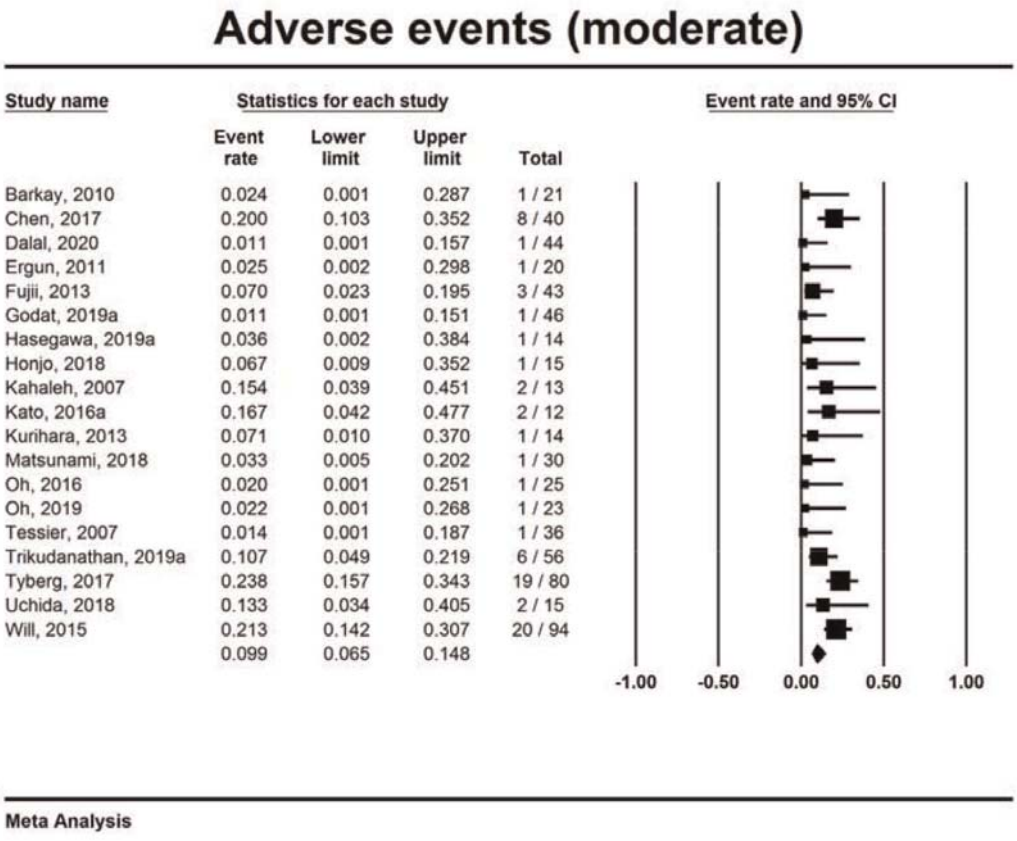
Supplementary material

Supplementary Fig. 4 Forest plot of mild adverse events.



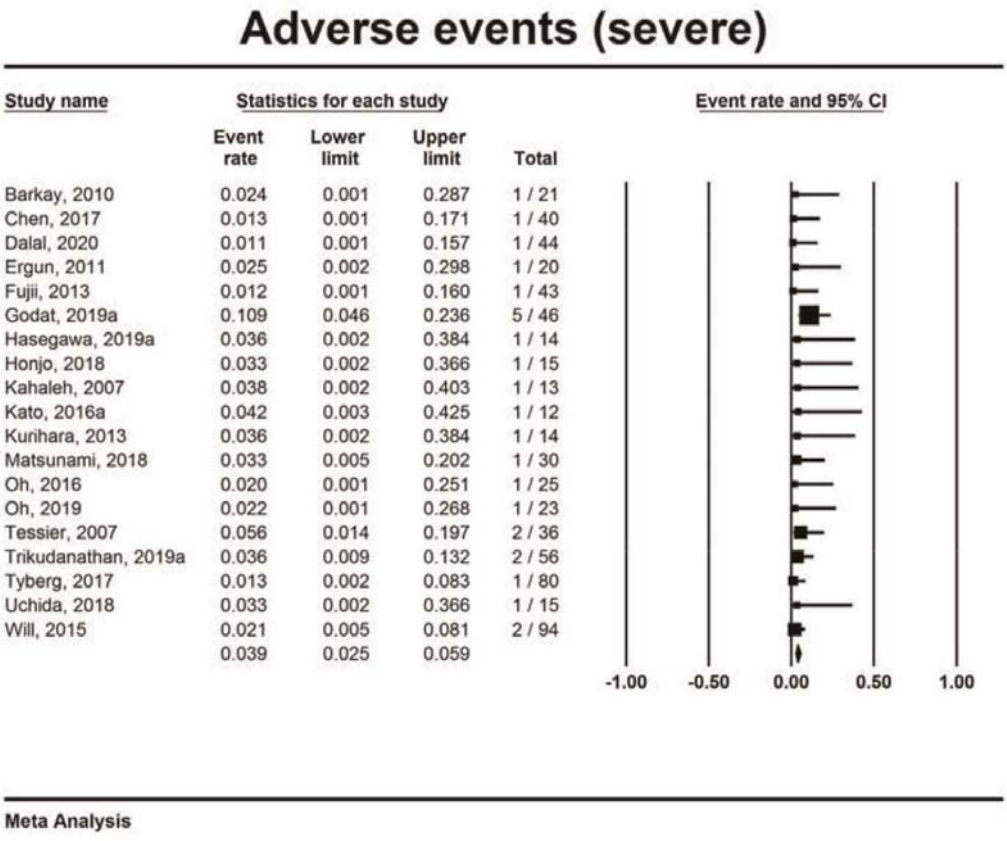
Supplementary material

Supplementary Fig. 5 Forest plot of moderate adverse events.



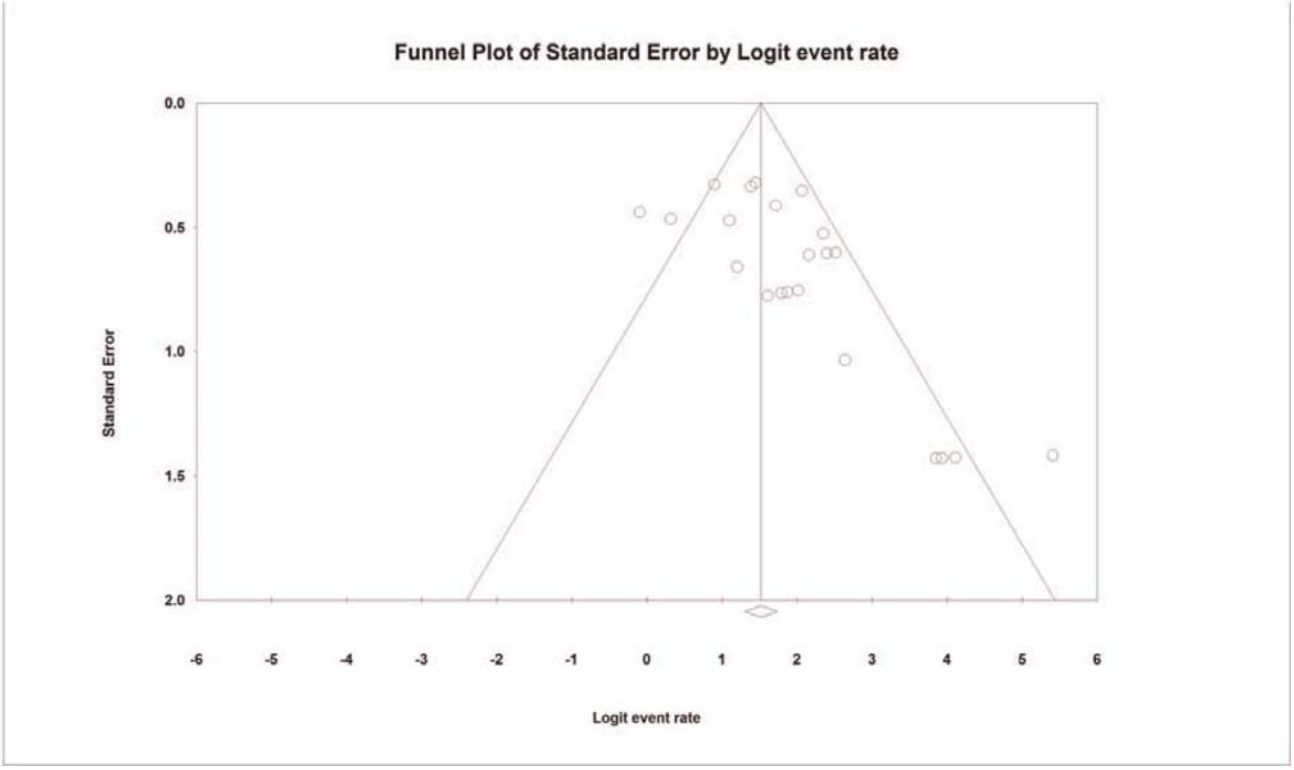
Supplementary material

Supplementary Fig. 6 Forest plot of severe adverse events.



Supplementary material

Supplementary Fig. 7 Funnel plot of publication bias.



Supplementary material

Appendix 1 Literature search strategy.
Number of results before and after deduplication

Database	# of initial hits	After deduplication
EBM Reviews	28	15
Embase	587	400
Medline	263	258
Scopus	647	389
Web of Science	219	58
Totals	1744	1120

EBM Reviews:
(((pancrea* or santorini* or wirsung*) adj2 duct*).ab,kw,ti. or "minor duodenal papilla* ".ab,kw,ti.) AND (drain* or stent* or suction*).ab,kw,ti. AND ((echoendoscop* or EUS* or endosonograph*).ab,kw,ti. or (endoscop* adj2 (ultraso* or echo*)).ab,kw,ti.)
Embase (1974+)
((exp pancreatic duct/ or ((pancrea* or santorini* or wirsung*) adj2 duct*).ab,kw,ti. or ""minor duodenal papilla*"".ab,kw,ti.) AND (drain* or stent* or suction*).ab,kw,ti. AND (exp endoscopic ultrasonography/ or (echoendoscop* or EUS* or endosonograph*).ab,kw,ti. or (endoscop* adj2 (ultraso* or echo*)).ab,kw,ti.) NOT (exp child/ not exp adult/ or exp animal/ not exp human/ or exp case report/ or "case report".kw,pt,ti.) Limit to English
Ovid MEDLINE(R) 1946 to Present and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) Daily:
((exp Pancreatic Ducts/ or ((pancrea* or santorini* or wirsung*) adj2 duct*).ab,kw,ti. or "minor duodenal papilla*".ab,kw,ti.) AND (exp Drainage/ or (drain* or stent* or suction*).ab,kw,ti.) AND (exp Endosonography/ or (echoendoscop* or EUS* or endosonograph*).ab,kw,ti. or (endoscop* adj2 (ultraso* or echo*)).ab,kw,ti.)) NOT (exp CHILD/ not exp ADULT/ or (exp Animals/ not Humans/) or exp Case Reports/ or "case report".kf,pt,ti.) Limit to English
Scopus:
(((TITLE-ABS-KEY ((pancrea* OR santorini* OR wirsung*) W/2 duct*) OR TITLE-ABS-KEY ("minor duodenal papilla*")))) AND (TITLE-ABS-KEY(drain* or stent* or suction*)) AND ((TITLE-ABS-KEY(echoendoscop* or EUS* or endosonograph*) OR TITLE-ABS-KEY(endoscop* W/2 (ultraso* or echo*)))) AND (LIMIT-TO (SRCTYPE,"j")) AND (LIMIT-TO (LANGUAGE,"English"))
Web of Science:
TOPIC: ((pancrea* or santorini* or wirsung*) NEAR/2 duct*) OR TOPIC: ("minor duodenal papilla*") AND TOPIC: (drain* or stent* or suction*) AND TOPIC: (echoendoscop* or EUS* or endosonograph*) OR TOPIC: (endoscop* NEAR/2 (ultraso* or echo*)) Limit to English, (Article OR Meeting Abstract)

Supplementary material

Appendix 2 MOOSE checklist. From: Stroup DF, Berlin JA, Morton SC et al. for the Meta-analysis Of Observational Studies in Epidemiology (MOOSE) Group. Meta-analysis of Observational Studies in Epidemiology. A Proposal for Reporting. JAMA. 2000;283(15):2008-2012. doi: 10.1001/jama.283.15.2008

Item no	Recommendation	Reported on age no
Reporting of background should include		
1	Problem definition	5,6
2	Hypothesis statement	-
3	Description of study outcome(s)	5,6
4	Type of exposure or intervention used	5,6
5	Type of study designs used	5,6
6	Study population	5,6
Reporting of search strategy should include		
7	Qualifications of searchers (eg, librarians and investigators)	7, appendix 1
8	Search strategy, including time period included in the synthesis and key words	7, appendix 1
9	Effort to include all available studies, including contact with authors	7
10	Databases and registries searched	7, appendix1
11	Search software used, name and version, including special features used (eg, explosion)	Appendix1
12	Use of hand searching (eg, reference lists of obtained articles)	7
13	List of citations located and those excluded, including justification	Appendix1
14	Method of addressing articles published in languages other than English	-na-
15	Method of handling abstracts and unpublished studies	7
16	Description of any contact with authors	7
Reporting of methods should include		
17	Description of relevance or appropriateness of studies assembled for assessing the hypothesis to be tested	7-8
18	Rationale for the selection and coding of data (eg, sound clinical principles or convenience)	7-8
19	Documentation of how data were classified and coded (eg, multiple raters, blinding and inter-rater reliability)	-na-
20	Assessment of confounding (eg, comparability of cases and controls in studies where appropriate)	-na-
21	Assessment of study quality, including blinding of quality assessors, stratification or regression on possible predictors of study results	8
22	Assessment of heterogeneity	9

Supplementary material

23	Description of statistical methods (eg, complete description of fixed or random effects models, justification of whether the chosen models account for predictors of study results, dose-response models, or cumulative meta-analysis) in sufficient detail to be replicated	9
24	Provision of appropriate tables and graphics	Tables 1,2, supplemental materials
Reporting of results should include		
25	Graphic summarizing individual study estimates and overall estimate	Supplementary materials
26	Table giving descriptive information for each study included	Supplementary Table 1
27	Results of sensitivity testing (eg, subgroup analysis)	11
28	Indication of statistical uncertainty of findings	11,12

Item No	Recommendation	Reported on Page No
Reporting of discussion should include		
29	Quantitative assessment of bias (eg, publication bias)	12
30	Justification for exclusion (eg, exclusion of non-English language citations)	-na-
31	Assessment of quality of included studies	Supple Table 2
Reporting of conclusions should include		
32	Consideration of alternative explanations for observed results	13-15
33	Generalization of the conclusions (ie, appropriate for the data presented and within the domain of the literature review)	13-15
34	Guidelines for future research	15

Supplementary material

Appendix 3 PRISMA checklist. From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

Section/topic	#	Checklist item	Reported on page #
Title			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
Abstract			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	4
Introduction			
Rationale	3	Describe the rationale for the review in the context of what is already known.	6-7
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	8-9
Methods			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	NA
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	8
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	8
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Suppl Appendix-1

Supplementary material

Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	8-9
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	9
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	9
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	11
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	13-15
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	16