Hôtel Marriott
Rive Gauche Paris 14ème

forums
Journée de réflexion & formations
du CREGG

CREGG
Club de Réflexion des Cabinets et Groupes d'Hépato-Gastroentérologie

Endoscopie

Drainage biliaire: quelle technique pour quel patient ?

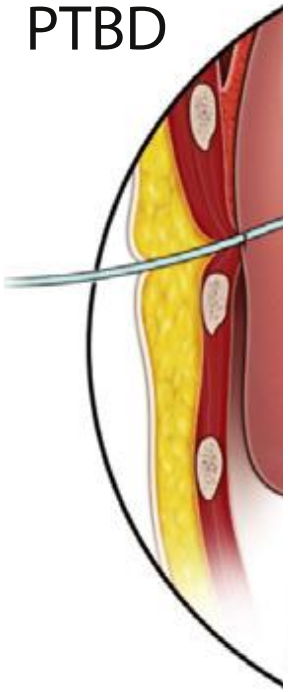
David KARSENTI, Paris

Clinique Paris-Bercy
HEXAGONE SANTÉ PARIS

Introduction

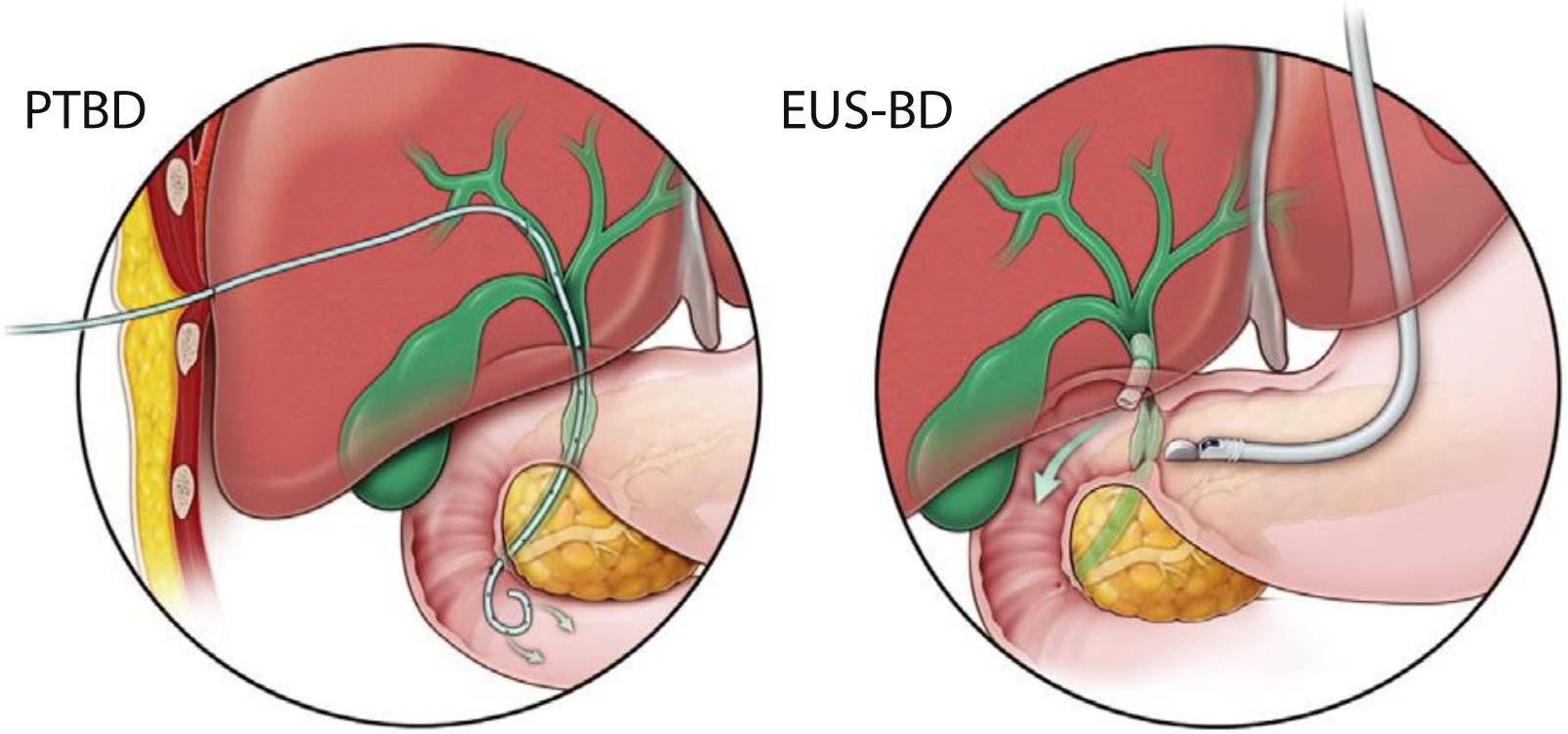
- Echec de drainage par CPRE rare (<1-5%)
- Depuis l'avènement de l'écho-endoscopie thérapeutique, apparition de nombreuses techniques de drainage endoscopique
- Nous drainons la plupart du temps ces patients en fonction des expertises locales (radiologue, endoscopiste)
- Pourtant nous avons des données récentes qui doivent nous faire nous interroger sur notre prise en charge

PTBD



(a) 1. Transgastı ultrasound
(EUS)-guided r ewire insertion
(EUS scope) Ste hnique.

1- Percutané ou EUS-BD ?



EUS vs PerCut – Les études …

Table 10 Success rate and complications for percutaneous transhepatic biliary drainage (PTBD) and endoscopic ultrasound-guided biliary drainage (EUS-BD).

First author Year [ref.]	Study design Quality	Intervention	Patients, n	Technical success, %	Clinical success, %	Overall morbidity, %
Artifon 2012 [182]	RCT Moderate quality evidence	PTBD	12	100	100	25
		EUS-BD	13	100	100	15.3
Bapaye 2013 [184]	Retrospective comparison Low quality evidence	PTBD	26	46	NA	46
		EUS-BD	25	92	NA	20
Khashab 2015 [183]	Retrospective comparison Low quality evidence	PTBD	51	100	92.2.	39.2
		EUS-BD	22	86.4	86.4	18.2

RCT, randomized controlled trial; NA, not available

EUS vs PerCut – Les études …

Papillary cannulation and sphincterotomy techniques at ERCP: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline

ESGE

Authors Pier Alberto Testoni[1], Alberto Mariani[1], Lars Aabakken[2], Marianna Arvanitakis[3], Erwan Bories[4], Guido Costamagna[5], Jacques Devière[3], Mario Dinis-Ribeiro[6], Jean-Marc Dumonceau[7], Marc Giovannini[4], Tibor Gyokeres[8], Michael Hafner[9], Jorma Halttunen[10], Cesare Hassan[11], Luis Lopes[12], Ioannis S. Papanikolaou[13], Tony C. Tham[14], Andrea Tringali[5], Jeanin van Hooft[15], Earl J. Williams[16]

Institutions Institutions listed at end of article.

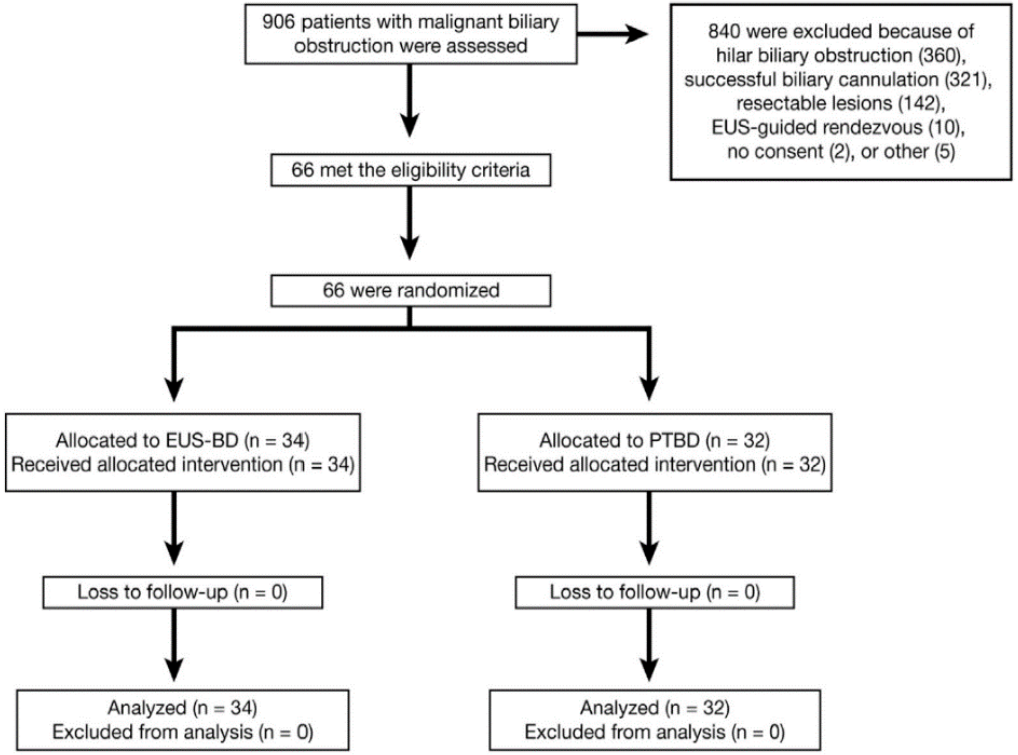
ESGE suggests that when biliary cannulation is unsuccessful with a standard retrograde approach, anterograde guidewire insertion either by a percutaneous or EUS-guided approach can be used to achieve biliary access. Which approach is utilized will depend on local expertise and facilities (low quality evidence, weak recommendation).

Endoscopy. 2016 Jul;48(7):657-83

EUS vs PerCut – 1 RCT 2016

Similar Efficacies of Endoscopic Ultrasound–guided Transmural and Percutaneous Drainage for Malignant Distal Biliary Obstruction

Tae Hoon Lee,[*,a] Jun-Ho Choi,[‡,a] Do Hyun Park,[§] Tae Jun Song,[§] Dong Uk Kim,[‖] Woo Hyun Paik,[¶] Young Hwangbo,[#] Sang Soo Lee,[§] Dong Wan Seo,[§] Sung Koo Lee,[§] and Myung-Hwan Kim[§]



Clinical Gastroenterology and Hepatology 2016;14:1011–1019

Outcome measures	EUS-BDS	PTBD	*P* value
Technical success, n (%)	32/34 (94.1)	31/32 (96.9)	.008[a]
Functional success, n (%)[b]	28/32 (87.5)	27/31 (87.1)	1.000[c]
Procedure-related adverse events, n (%)[d]	3 (8.8)	10 (31.2)	.022[e]
Re-intervention rate, n (%)[b]	8 (25)	17 (54.8)	.015[e]
Hospital stay, median (range), *d*	6 (3–14)	12 (4–24)	.001[f]

[a]Noninferiority was defined as a lower limit of a 97.5% one-sided confidence interval greater than -15. Difference between EUS-BD and PTBD (97.5% one-sided confidence interval lower limit) was -2.8 (-12.7).

EUS vs PerCut – Méta-analyse

10 études dont 2 RCT

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Year
1.1.1 RCTs					
Artifon, 2012	-0.077	2.03	5.1%	0.93 [0.02-49.49]	2012
Giovannini, 2015	-1.5141	1.2234	12.0%	0.22 [0.02-2.42]	2015
Lee, 2015	0.6627	1.2422	11.7%	1.94 [0.17-22.14]	2015
Subtotal (95% CI)			**28.8%**	**0.68 [0.14-3.27]**	
Heterogeneity: Tau² = 0.00; Chi²= 1.59, df = 2 (P = .45); I² = 0%					
Test for overall effect: Z = 0.48 (P = .63)					
1.1.2 Observational studies					
Bapaye, 2013	1.6974	1.5534	8.2%	5.46 [0.26-114.66]	2013
Khashab, 2014	2.9172	1.5365	8.3%	18.49 [0.91-375.66]	2014
Bill, 2015	2.8332	1.4993	8.7%	17.00 [0.90-321.11]	2015
Sportes, 2016	-0.4296	2.019	5.2%	0.65 [0.01-34.04]	2016
Sharaiha, 2016	-0.6733	0.9451	17.4%	0.51 [0.08-3.25]	2016
Torres-Ruiz, 2016	0.8459	0.7366	23.5%	2.33 [0.55-9.87]	2016
Subtotal (95% CI)			**71.2%**	**2.67 [0.83-8.51]**	
Heterogeneity: Tau² = 0.56; Chi²= 6.86, df = 5 (P = .23); I² = 27%					
Test for overall effect: Z = 1.65 (P = .10)					
Total (95% CI)			**100.0%**	**1.78 [0.69-4.59]**	
Heterogeneity: Tau²= 0.45; Chi²= 10.26, df = 8 (P = .25); I² = 22%					
Test for overall effect: Z = 1.20 (P = .23)					
Test for subgroup differences: Chi²= 1.88, df = 1 (P = .17), I²= 46.8%					

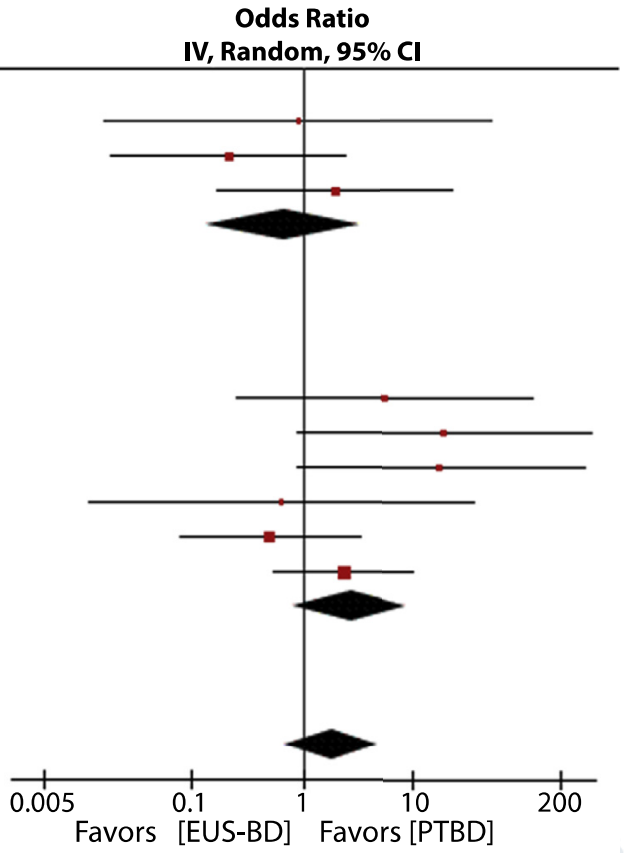


Figure 2. Forest plot to compare technical success.

Sharaiha RZ, et al. Gastrointest Endosc 2017;85:904-14.

EUS vs PerCut – Méta-analyse

10 études dont 2 RCT

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Year
1.2.1 RCTs					
Artifon, 2012	-0.077	2.03	3.0%	0.93 [0.02-49.49]	2012
Lee, 2015	-0.0408	0.7517	21.7%	0.96 [0.22-4.19]	2015
Subtotal (95% CI)			**24.6%**	**0.96 [0.24-3.81]**	
Heterogeneity: Tau² = 0.00; Chi² = 0.00, df = 1 (P = .99); I²= 0%					
Test for overall effect: Z = 0.06 (P = .95)					
1.2.2 Observational studies					
Khashab, 2014	-1.3093	1.6816	4.3%	0.27 [0.01-7.29]	2014
Torres-Ruiz, 2016	-1.3863	0.7281	23.1%	0.25 [0.06-1.04]	2016
Sportes, 2016	-0.3285	0.6797	26.5%	0.72 [0.19-2.73]	2016
Sharaiha, 2016	-1.5141	0.7559	21.4%	0.22 [0.05-0.97]	2016
Subtotal (95% CI)			**75.4%**	**0.35 [0.16-0.77]**	
Heterogeneity: Tau² = 0.00; Chi² = 1.74, df = 3 (P = .63); I²= 0%					
Test for overall effect: Z = 2.60 (P = .009)					
Total (95% CI)			**100.0%**	**0.45 [0.23-0.89]**	
Heterogeneity: Tau² = 0.00; Chi² = 3.26, df = 5 (P = .66); I²= 0%					
Test for overall effect: Z = 2.28 (P = .02)					
Test for subgroup differences: Chi²= 1.52, df = 1 (P = .22), I²= 34.2%					

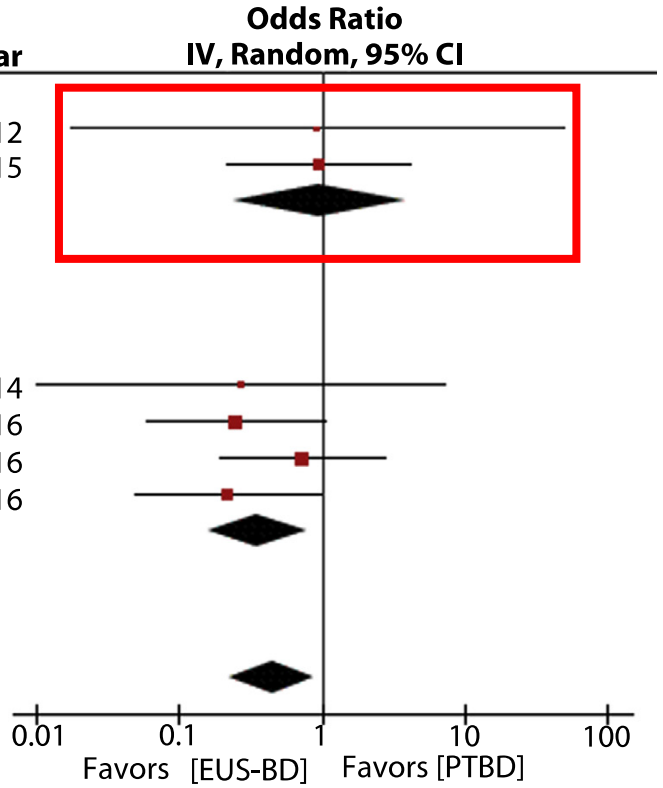


Figure 4. Forest plot to compare clinical success.

Sharaiha RZ, et al. Gastrointest Endosc 2017;85:904-14.
14.

EUS vs PerCut – Méta-analyse

10 études dont 2 RCT

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Year
1.3.1 RCTs					
Artifon, 2012	-0.5978	1.0518	7.3%	0.55 [0.07-4.32]	2012
Lee, 2015	-1.5606	0.7322	10.9%	0.21 [0.05-0.88]	2015
Giovannini, 2015	-1.6094	0.7073	11.3%	0.20 [0.05-0.80]	2015
Subtotal (95% CI)			**29.5%**	**0.25 [0.10-0.61]**	
Heterogeneity: Tau² = 0.00; Chi² = 0.72, df = 2 (P = .70); I²= 0%					
Test for overall effect: Z = 3.05 (P = .002)					
1.3.2 Observational studies					
Bapaye, 2013	-1.2379	0.6571	12.0%	0.29 [0.08-1.05]	2013
Khashab, 2014	-2.4079	0.5605	13.5%	0.09 [0.03-0.27]	2014
Bill, 2015	-0.5447	0.597	13.0%	0.58 [0.18-1.87]	2015
Sharaiha, 2016	-4.6052	1.1748	6.3%	0.01 [0.00-0.10]	2016
Torres-Ruiz, 2016	-1.6607	0.5095	14.4%	0.19 [0.07-0.52]	2016
Sportes, 2016	0.157	0.7117	11.2%	1.17 [0.29-4.72]	2016
Subtotal (95% CI)			**70.5%**	**0.21 [0.08-0.58]**	
Heterogeneity: Tau² = 1.07; Chi² = 17.81, df = 5 (P = .003); I²= 72%					
Test for overall effect: Z = 3.03 (P = .002)					
Total (95% CI)			**100.0%**	**0.23 [0.12-0.47]**	
Heterogeneity: Tau² = 0.62; Chi² = 18.53, df = 8 (P = .02); I²= 57%					
Test for overall effect: Z = 4.09 (P < .0001)					
Test for subgroup differences: Chi²= 0.04, df = 1 (P = .84), I²= 0%					

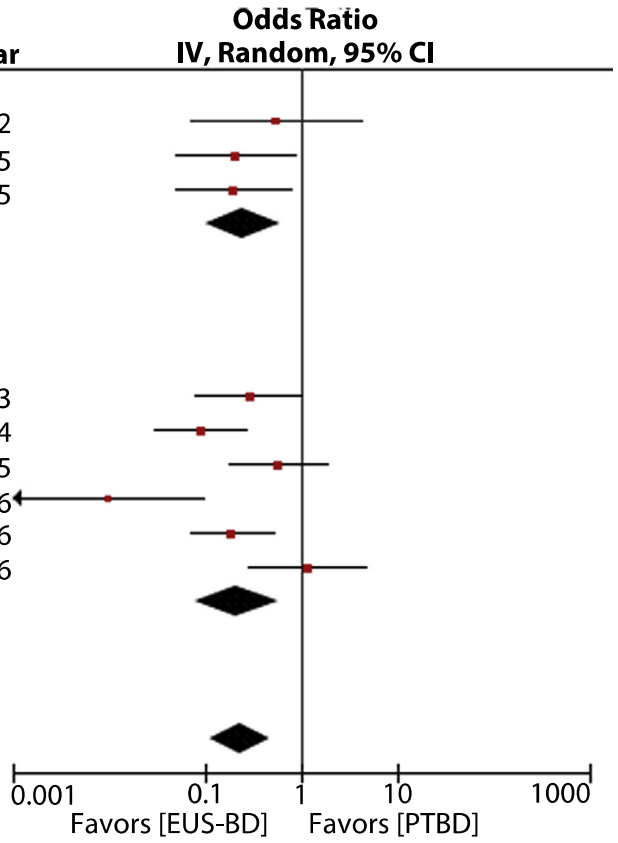


Figure 5. Forest plot to compare postprocedure adverse events.

Sharaiha RZ, et al. Gastrointest Endosc 2017;85:904-14.

EUS vs PerCut – Méta-analyse

10 études dont 2 RCT

Study or Subgroup	log[Odds Ratio]	SE	Weight	Odds Ratio IV, Random, 95% CI	Year
1.4.1 RCT					
Lee, 2015	-2.9957	0.8212	15.8%	0.05 [0.01-0.25]	2015
Subtotal (95% CI)			**15.8%**	**0.05 [0.01-0.25]**	
Heterogeneity: Not applicable					
Test for overall effect: Z = 3.65 (P = .0003)					
1.4.2 Observational studies					
Khashab, 2014	-1.6607	0.6811	22.9%	0.19 [0.05-0.72]	2014
Bill, 2015	-2.0402	0.7481	19.0%	0.13 [0.03-0.56]	2015
Sharaiha, 2016	-2.3026	0.8212	15.8%	0.10 [0.02-0.50]	2016
Torres-Ruiz, 2016	-2.1203	0.9142	12.7%	0.12 [0.02-0.72]	2016
Sportes, 2016	-1.273	0.879	13.8%	0.28 [0.05-1.57]	2016
Subtotal (95% CI)			**84.2%**	**0.15 [0.08-0.31]**	
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 0.96$, df = 4 (P = .92); $I^2 = 0\%$					
Test for overall effect: Z = 5.27 (P < .00001)					
Total (95% CI)			**100.0%**	**0.13 [0.07-0.24]**	
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 2.53$, df = 5 (P = .77); $I^2 = 0\%$					
Test for overall effect: Z = 6.28 (P < .00001)					
Test for subgroup differences: $Chi^2 = 1.58$, df = 1 (P = .21), $I^2 = 36.5\%$					

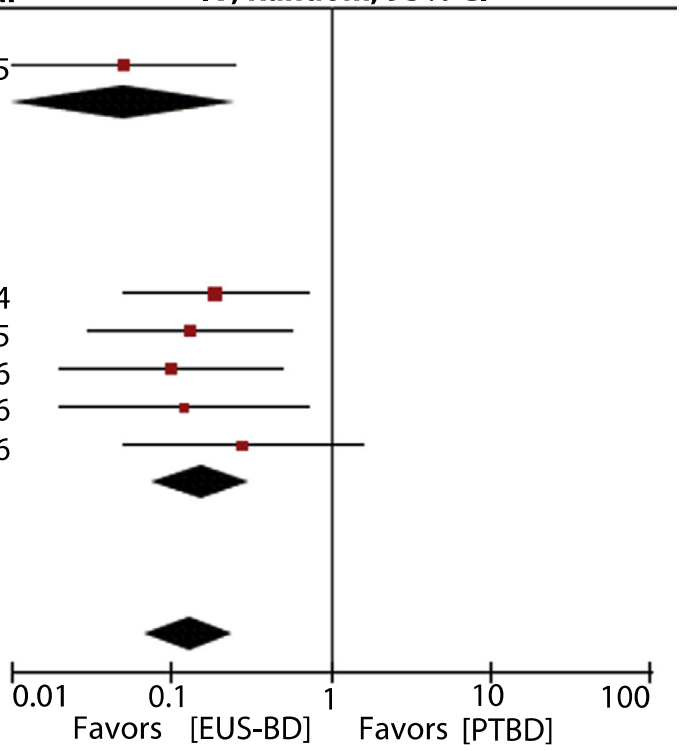


Figure 7. Forest plot to compare rate of reintervention.

Sharaiha RZ, et al. Gastrointest Endosc 2017;85:904-14.

EUS vs PerCut – Méta-analyse

10 études dont 2 RCT

- N= 483 patients

- ***EUS-BD***
  - ***Meilleur taux de succès clinique***
  - ***Moins d'effets secondaires***
  - ***Plus faible taux de réinterventions***

→ EUS-BD > TH

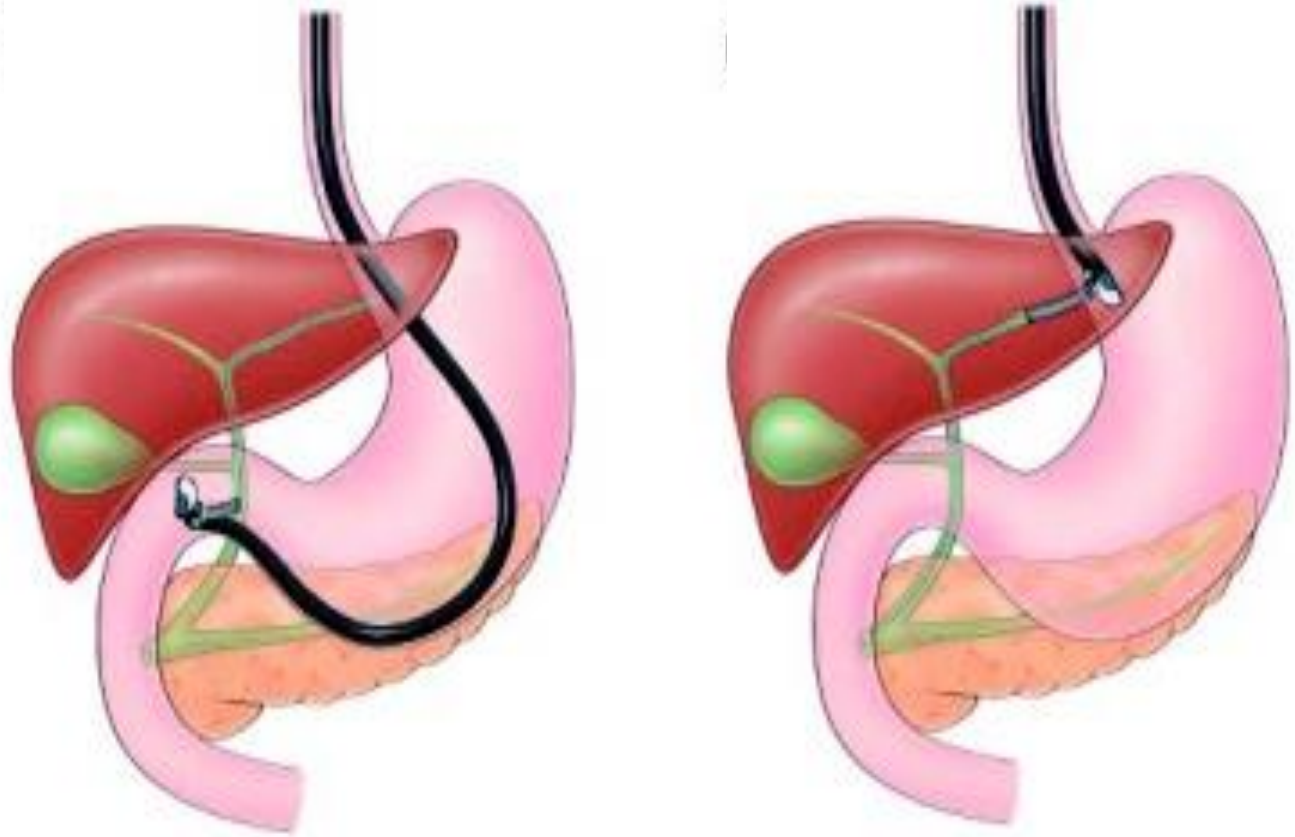
Sharaiha RZ, et al. Gastrointest Endosc 2017;85:904-14.

1- Percutané ou EUS-BD ?

- ***EUS-BD***
  - ***Meilleur taux de succès clinique*** ***??***
  - ***Moins d'effets secondaires*** ***!***
  - ***Plus faible taux de réinterventions*** ***!***

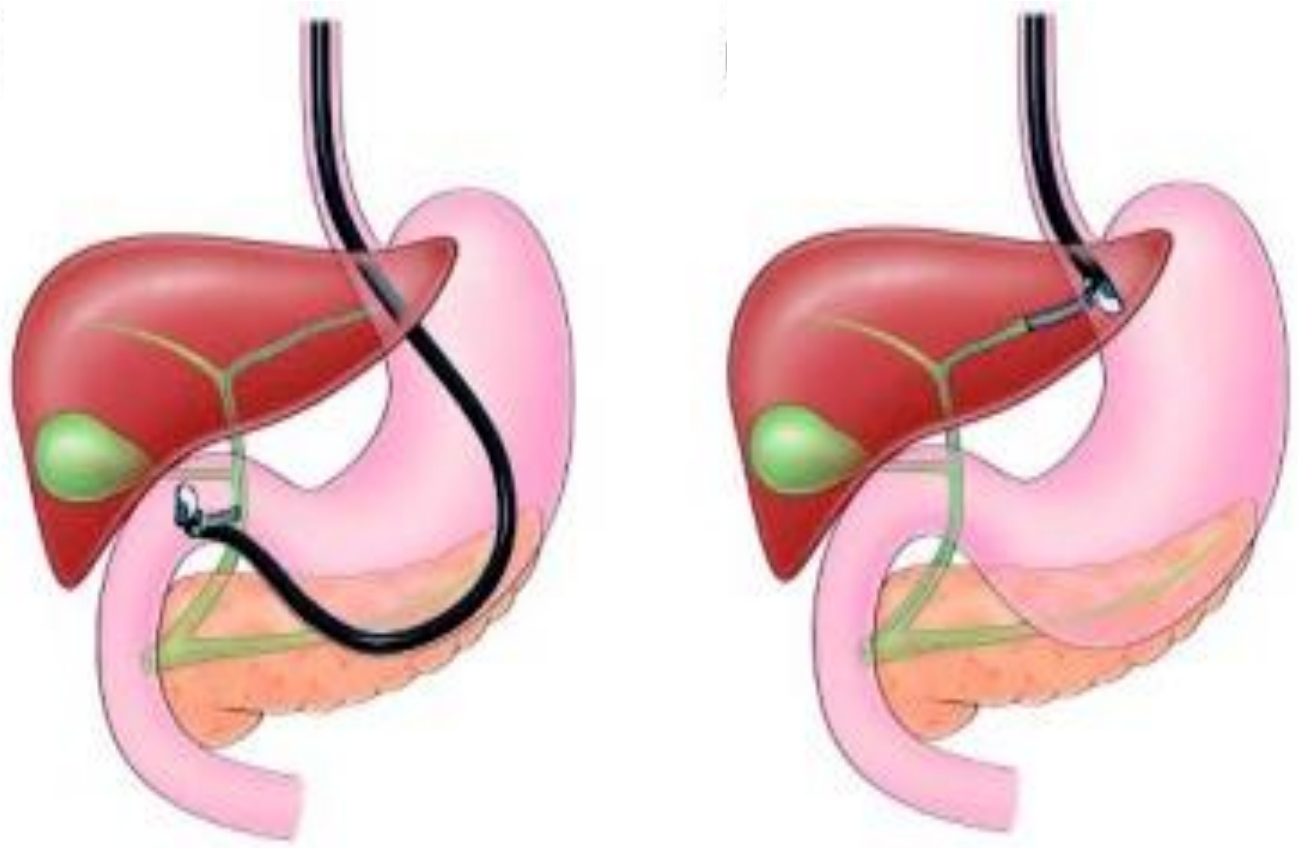
→ EUS-BD ≥ TH → *expertises locales?*

2- EUS-BD : HG ou CD ?



HG vs CD – 1ère Méta-analyse

20 études dont 1RCT



Khan MA, et al. Dig Dis Sci (2016) 61:684–703

HG vs CD – 1ère Méta-analyse

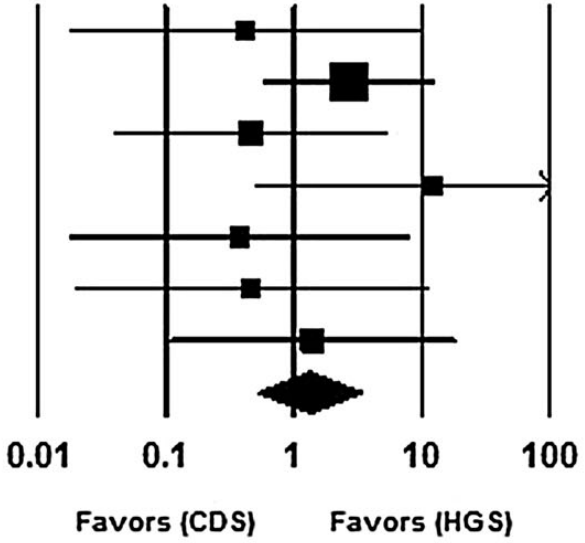
20 études dont 1RCT

Technical success (CDS versus HGS)

Study name	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value
Khashab, 2013	0.413	0.018	9.733	-0.548	0.584
Dhir, 2014	2.708	0.572	12.832	1.255	0.209
Artifon, 2014	0.458	0.039	5.414	-0.619	0.536
Bapaye, 2013	12.273	0.503	299.320	1.539	0.124
Dhir, 2013	0.378	0.018	8.117	-0.622	0.534
Khashab, 2014	0.469	0.019	11.465	-0.464	0.643
Takada, 2013	1.417	0.108	18.595	0.265	0.791
	1.323	0.516	3.387	0.583	0.560

Statistics for each study

Odds ratio and 95% CI



Meta Analysis

Khan MA, et al. Dig Dis Sci (2016) 61:684–703

HG vs CD – 1ère Méta-analyse

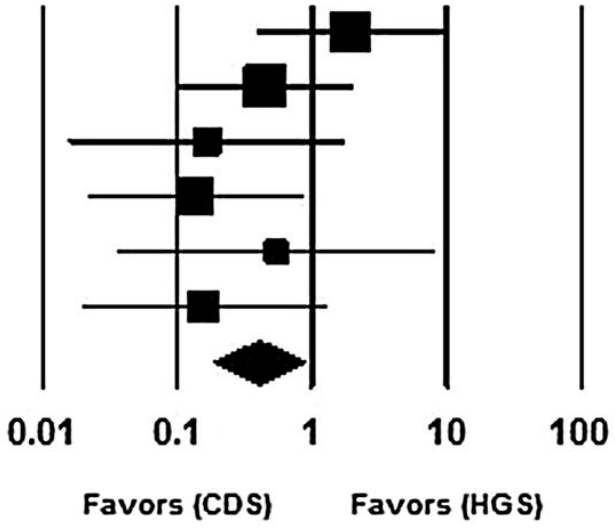
20 études dont 1RCT

Adverse event rate (CDS versus HGS)

Study name	Odds ratio	Lower limit	Upper limit	Z-Value	p-Value
Dhir, 2014	1.951	0.384	9.922	0.805	0.421
Artifon, 2014	0.452	0.099	2.065	-1.024	0.306
Bapaye, 2013	0.167	0.016	1.777	-1.484	0.138
Dhir, 2013	0.136	0.022	0.856	-2.125	0.034
Khashab, 2014	0.545	0.036	8.270	-0.437	0.662
Takada, 2013	0.157	0.019	1.274	-1.733	0.083
	0.401	0.184	0.874	-2.298	0.022

Statistics for each study

Odds ratio and 95% CI



Meta Analysis

Khan MA, et al. Dig Dis Sci (2016) 61:684–703

HG vs CD – 1ère Méta-analyse

20 études dont 1RCT

- EUS-BD 90% de succès
- EUS-BD 17% de complications
- CD vs HG
  - ✓CD semble un peu plus efficace que HG
  - ✓CD semble un peu moins morbide

Khan MA, et al. Dig Dis Sci (2016) 61:684–703

HG vs CD – 2ème Méta-analyse

10 études dont 1RCT

Study or Subgroup	CDS Events	CDS Total	HGS Events	HGS Total	Weight	Odds Ratio (Non-event) M-H, Fixed, 95% CI
1.6.1 RCT						
ARTIFON 2015	22	24	24	25	9.0%	2.18 [0.18, 25.77]
Subtotal (95% CI)		**24**		**25**	**9.0%**	**2.18 [0.18, 25.77]**
Total events	22		24			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.62 (P = 0.54)						
1.6.2 Observational studies						
KAWAKUBO 2014	42	44	19	20	13.2%	0.90 [0.08, 10.60]
KHASHAB 2016	56	60	56	61	46.6%	0.80 [0.20, 3.14]
KIM 2012	9	9	3	4	19.1%	0.12 [0.00, 3.78]
PARK 2015	11	12	20	20	3.4%	5.35 [0.20, 142.27]
PRACHAYAKUL 2013	6	6	14	15	8.5%	0.74 [0.03, 20.81]
Subtotal (95% CI)		**131**		**120**	**91.0%**	**0.84 [0.32, 2.20]**
Total events	124		112			
Heterogeneity: Chi² = 2.45, df = 4 (P = 0.65); I² = 0%						
Test for overall effect: Z = 0.36 (P = 0.72)						
Total (95% CI)		**155**		**145**	**100.0%**	**0.96 [0.39, 2.33]**
Total events	146		136			
Heterogeneity: Chi² = 2.95, df = 5 (P = 0.71); I² = 0%						
Test for overall effect: Z = 0.09 (P = 0.93)						
Test for subgroup differences: Chi² = 0.50, df = 1 (P = 0.48), I² = 0%						

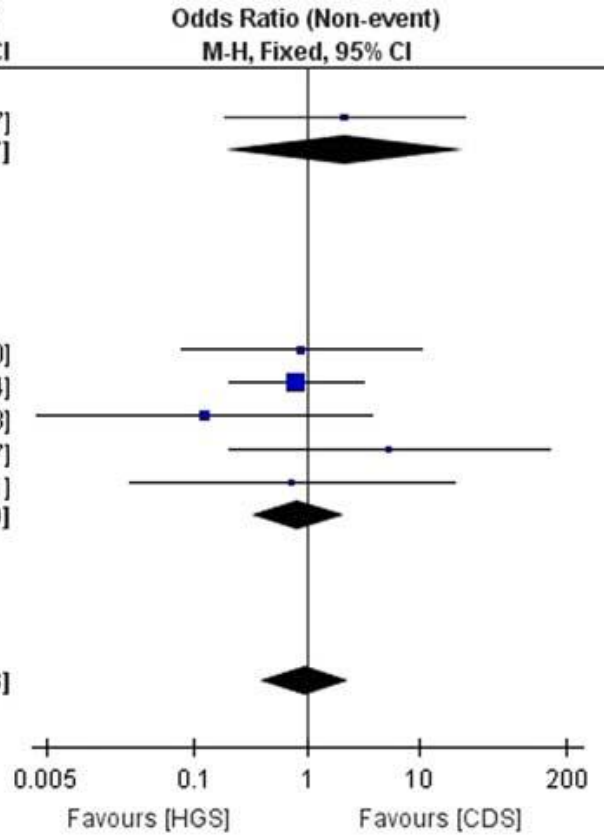


FIGURE 2. Forest plot to compare technical success. CDS indicates choledochoduodenostomy; CI, confidence interval; HGS, hepaticogastrostomy; M-H, Mantel-Haenszel; RCT, randomized clinical trial. full color online

Uemera RS, et al. J Clin Gastroenterol 2017

HG vs CD – 2ème Méta-analyse

10 études dont 1RCT

Study or Subgroup	CDS Events	CDS Total	HGS Events	HGS Total	Weight	Odds Ratio (Non-event) M-H, Fixed, 95% CI
1.8.1 RCT						
ARTIFON 2015	17	24	22	25	7.9%	3.02 [0.68, 13.44]
Subtotal (95% CI)		**24**		**25**	**7.9%**	**3.02 [0.68, 13.44]**
Total events	17		22			
Heterogeneity: Not applicable						
Test for overall effect: Z = 1.45 (P = 0.15)						
1.8.2 Observational studies						
CHO 2016	33	33	18	21	15.8%	0.08 [0.00, 1.61]
KAWAKUBO 2014	41	44	19	20	4.8%	1.39 [0.14, 14.25]
KHASHAB 2016	48	60	46	61	44.9%	0.77 [0.32, 1.81]
KIM 2012	9	9	2	4	12.0%	0.05 [0.00, 1.49]
OGURA 2015	13	13	24	26	6.2%	0.36 [0.02, 8.12]
PARK 2015	11	12	18	20	5.2%	0.82 [0.07, 10.12]
PRACHAYAKUL 2013	6	6	14	15	3.2%	0.74 [0.03, 20.81]
Subtotal (95% CI)		**177**		**167**	**92.1%**	**0.56 [0.29, 1.08]**
Total events	161		141			
Heterogeneity: Chi² = 4.82, df = 6 (P = 0.57); I² = 0%						
Test for overall effect: Z = 1.72 (P = 0.09)						
Total (95% CI)		**201**		**192**	**100.0%**	**0.76 [0.42, 1.35]**
Total events	178		163			
Heterogeneity: Chi² = 8.38, df = 7 (P = 0.30); I² = 17%						
Test for overall effect: Z = 0.94 (P = 0.34)						
Test for subgroup differences: Chi² = 4.08, df = 1 (P = 0.04), I² = 75.5%						

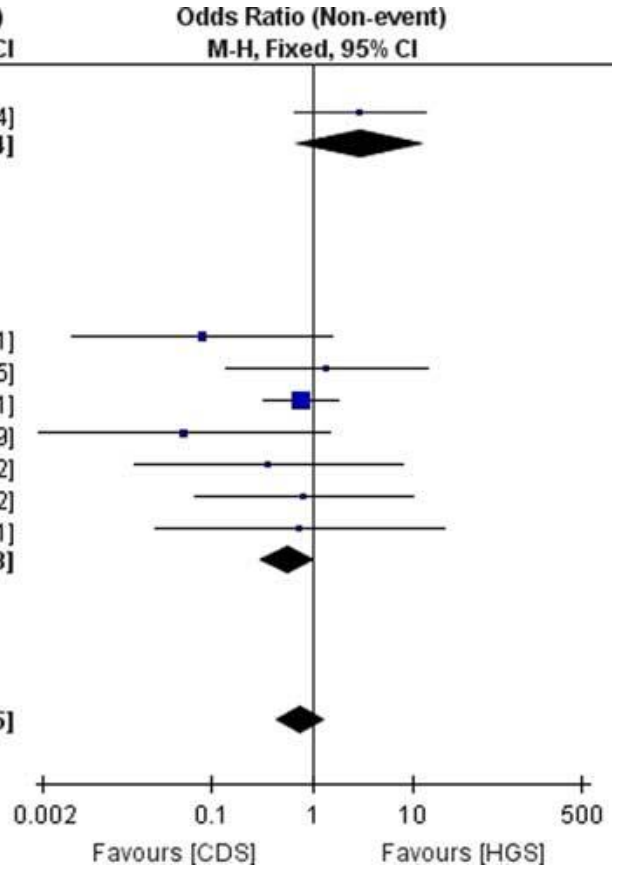


FIGURE 3. Forest plot to compare clinical success. CDS indicates choledochoduodenostomy; CI, confidence interval; HGS, hepaticogastrostomy; M-H, Mantel-Haenszel, RCT, randomized clinical trial. full color online

Uemera RS, et al. J Clin Gastroenterol 2017

HG vs CD – 2ème Méta-analyse

10 études dont 1RCT

Study or Subgroup	CDS Events	CDS Total	HGS Events	HGS Total	Weight	Odds Ratio M-H, Fixed, 95% CI
1.7.1 RCT						
ARTIFON 2015	3	24	5	25	12.6%	0.57 [0.12, 2.71]
Subtotal (95% CI)		**24**		**25**	**12.6%**	**0.57 [0.12, 2.71]**
Total events	3		5			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.70 (P = 0.48)						
1.7.2 Observational studies						
AMANO 2017	2	11	1	9	2.6%	1.78 [0.13, 23.52]
CHO 2016	5	33	4	21	12.1%	0.76 [0.18, 3.22]
GUO 2016	2	14	1	7	3.3%	1.00 [0.07, 13.37]
KAWAKUBO 2014	7	44	7	20	23.7%	0.35 [0.10, 1.19]
KHASHAB 2016	8	60	12	61	30.2%	0.63 [0.24, 1.67]
KIM 2012	3	9	2	4	5.4%	0.50 [0.05, 5.51]
OGURA 2015	6	13	2	26	2.1%	10.29 [1.69, 62.74]
PARK 2015	4	12	5	20	7.3%	1.50 [0.31, 7.21]
PRACHAYAKUL 2013	2	6	0	15	0.6%	17.22 [0.69, 427.87]
Subtotal (95% CI)		**202**		**183**	**87.4%**	**1.03 [0.62, 1.70]**
Total events	39		34			
Heterogeneity: Chi² = 14.03, df = 8 (P = 0.08); I² = 43%						
Test for overall effect: Z = 0.10 (P = 0.92)						
Total (95% CI)		**226**		**208**	**100.0%**	**0.97 [0.60, 1.56]**
Total events	42		39			
Heterogeneity: Chi² = 14.39, df = 9 (P = 0.11); I² = 37%						
Test for overall effect: Z = 0.13 (P = 0.90)						
Test for subgroup differences: Chi² = 0.49, df = 1 (P = 0.48), I² = 0%						

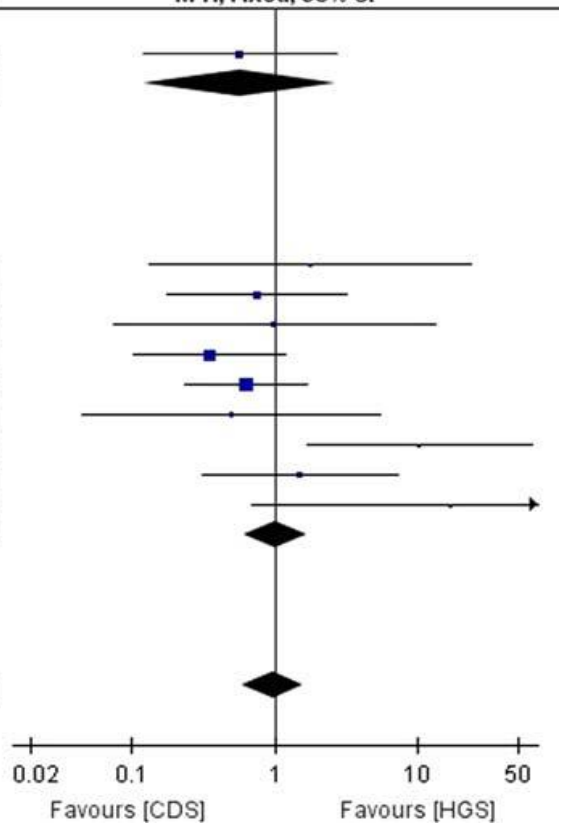


FIGURE 4. Forest plot to compare adverse events. CDS indicates choledochoduodenostomy; CI, confidence interval; HGS, hepaticogastrostomy; M-H, Mantel-Haenszel; RCT, randomized clinical trial. full color online

Uemera RS, et al. J Clin Gastroenterol 2017

HG vs CD – 2ème Méta-analyse

10 études dont 1RCT

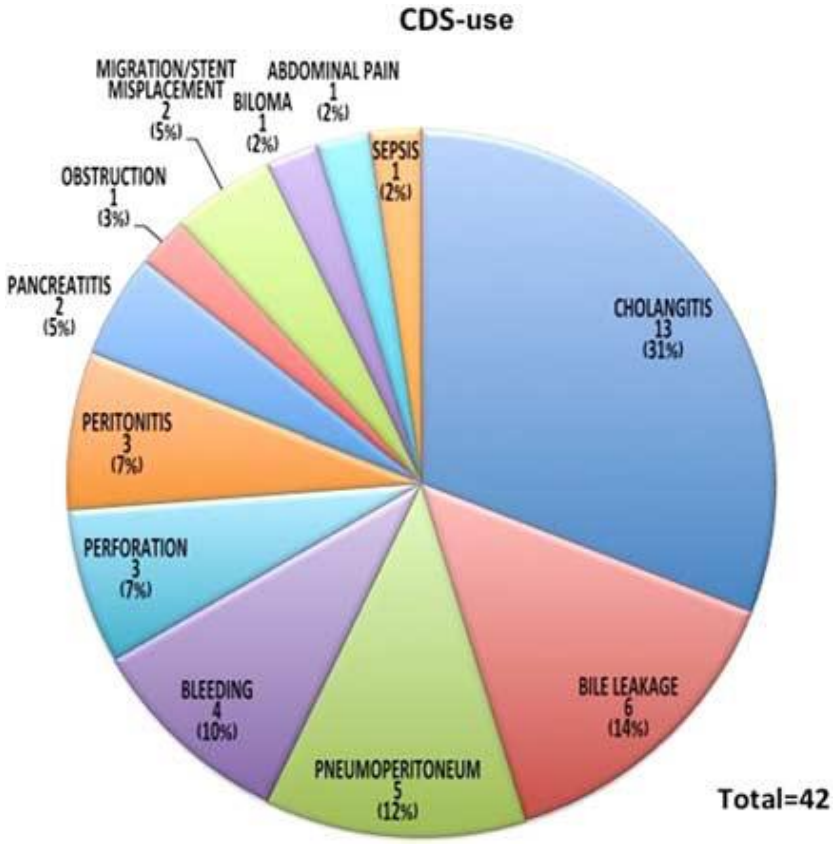


FIGURE 5. Choledochoduodenostomy adverse events. CDS indicate choledochoduodenostomy. full color online

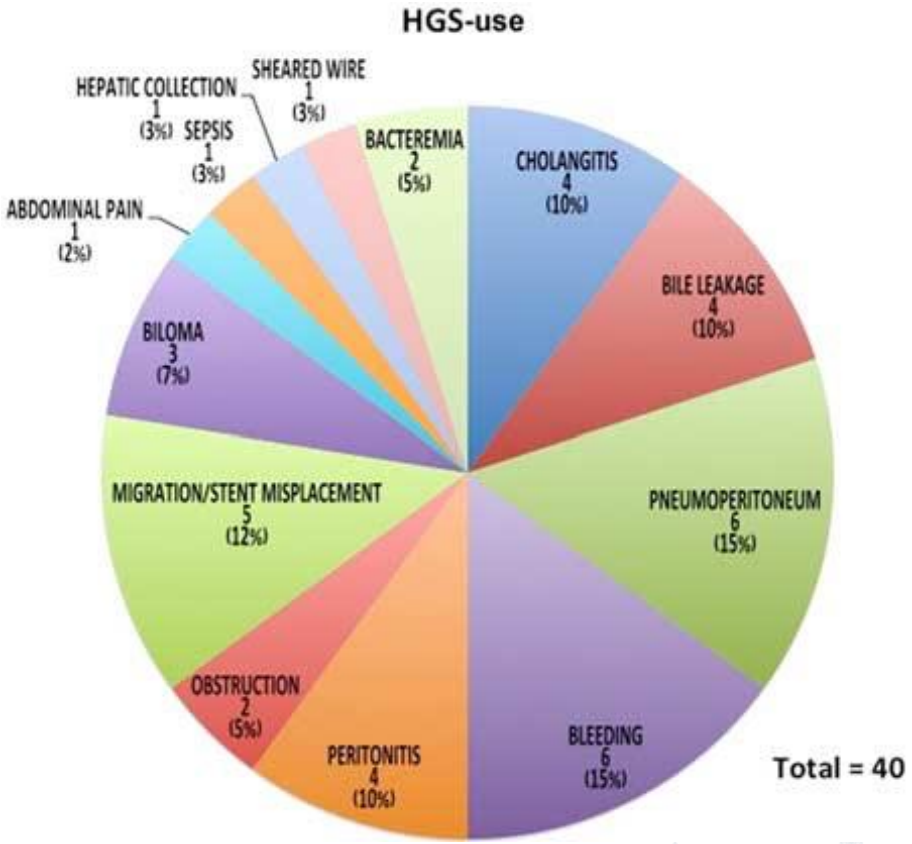


FIGURE 6. Hepaticogastrostomy adverse events. HGS indicates hepaticogastrostomy. full color online

Uemera RS, et al. J Clin Gastroenterol 2017

HG vs CD – 2ème Méta-analyse

10 études dont 1RCT

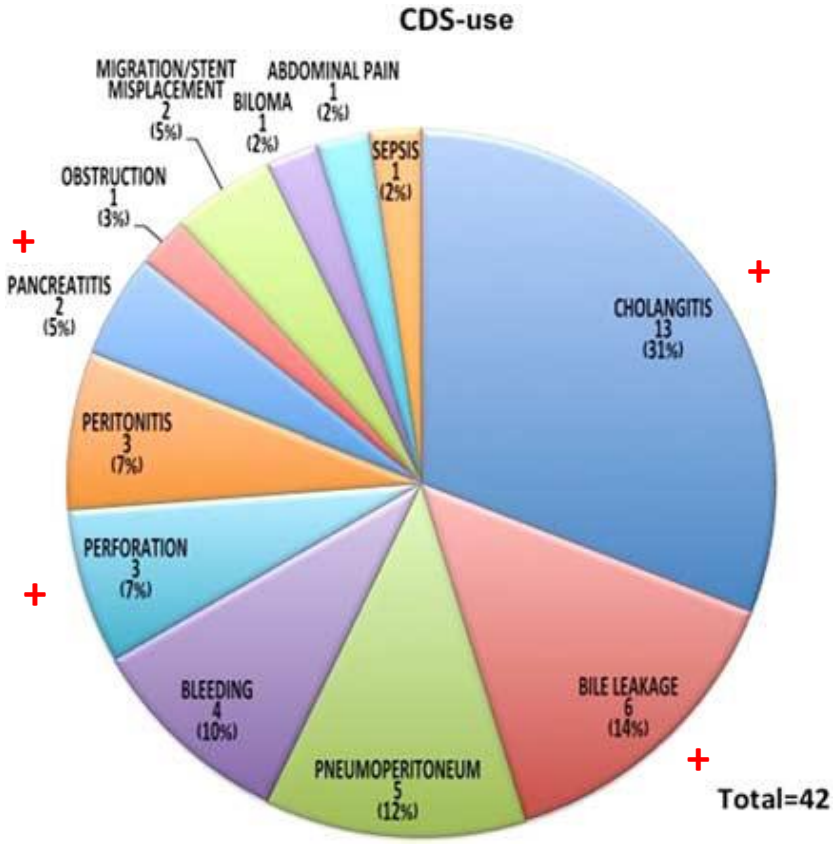


FIGURE 5. Choledochoduodenostomy adverse events. CDS indicate choledochoduodenostomy. full color online

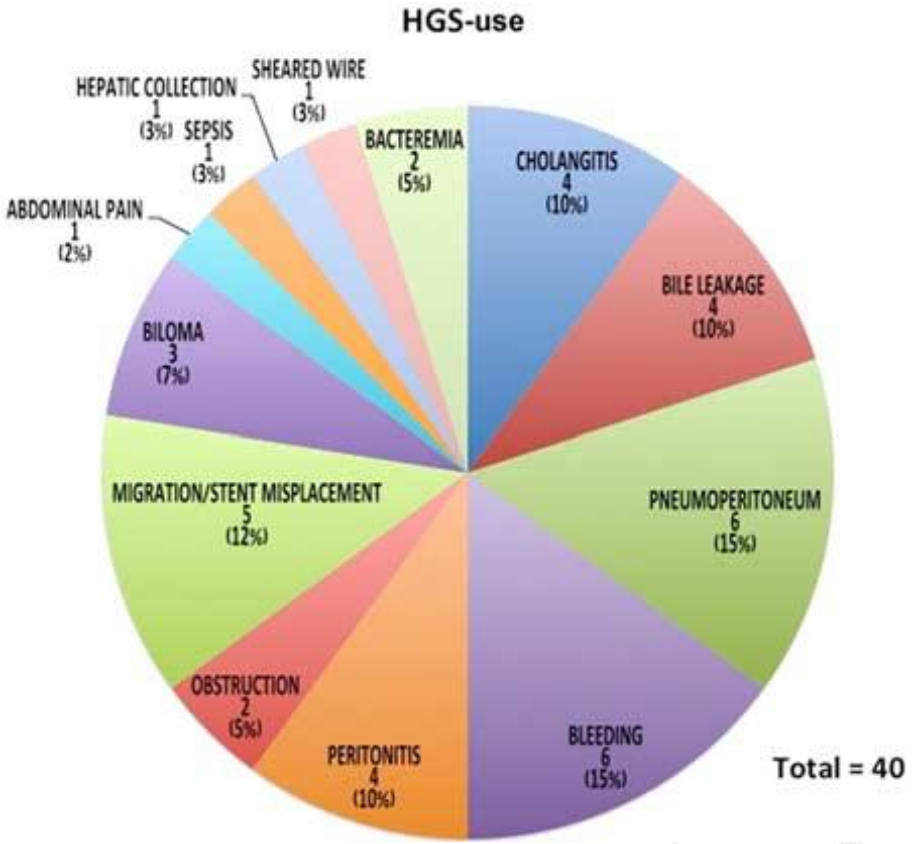


FIGURE 6. Hepaticogastrostomy adverse events. HGS indicates hepaticogastrostomy. full color online

Uemera RS, et al. J Clin Gastroenterol 2017

HG vs CD – 2ème Méta-analyse

10 études dont 1RCT

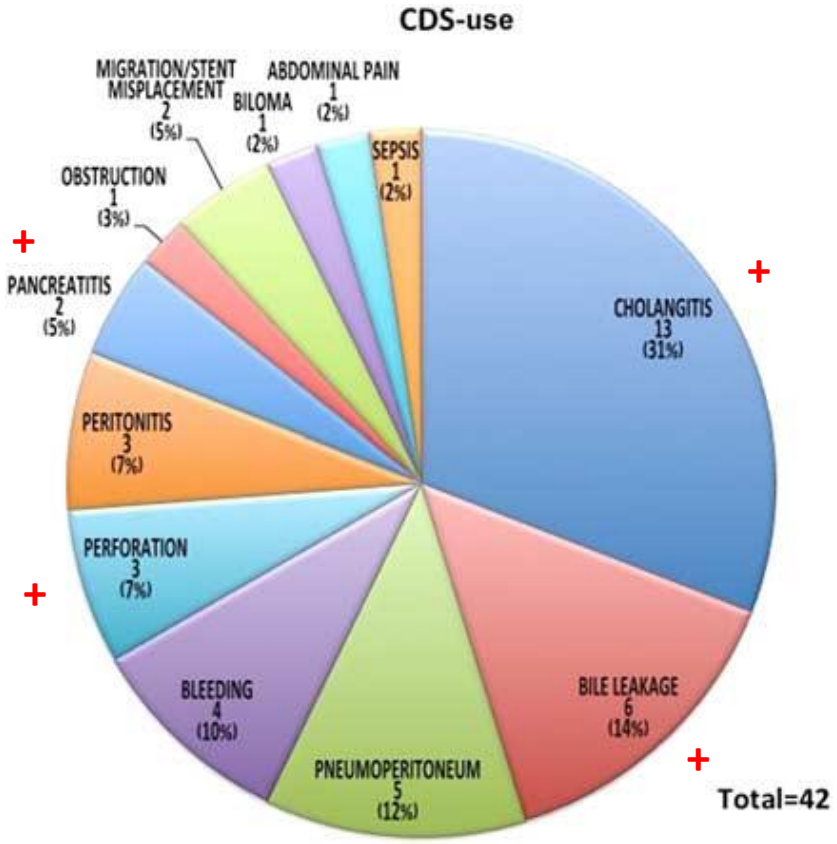


FIGURE 5. Choledochoduodenostomy adverse events. CDS indicate choledochoduodenostomy. full color online

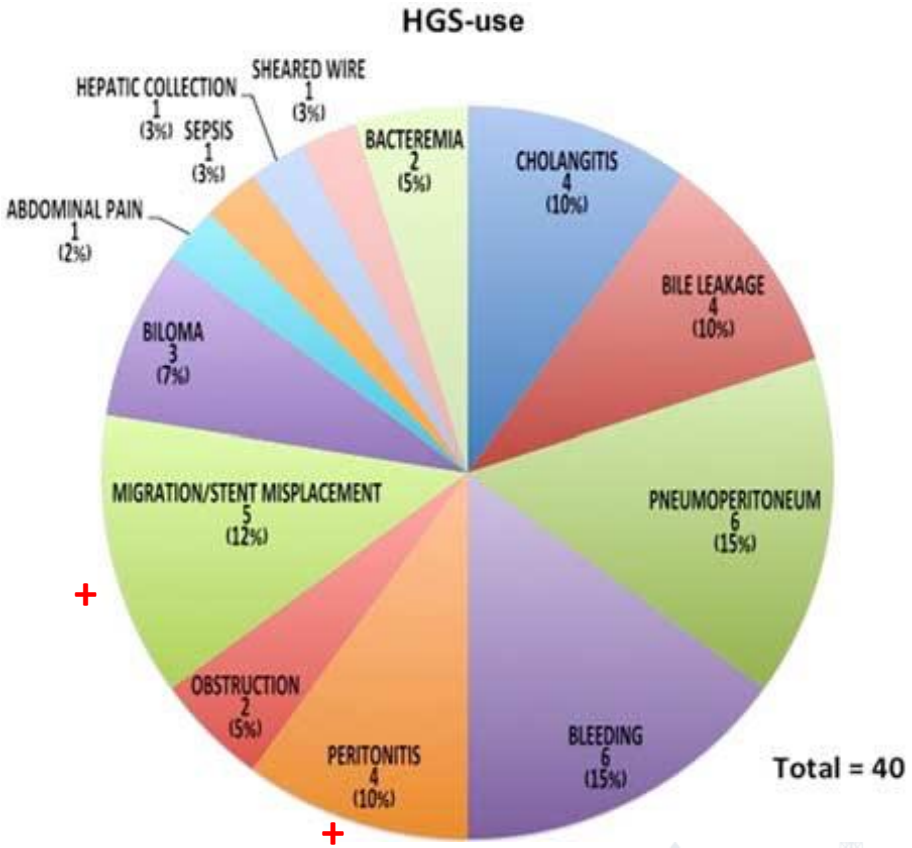


FIGURE 6. Hepaticogastrostomy adverse events. HGS indicates hepaticogastrostomy. full color online

Uemera RS, et al. J Clin Gastroenterol 2017

HG vs CD – 2ème Méta-analyse

10 études dont 1RCT

- Succès technique et clinique élevé et équivalent
- Sécurité acceptable (≈ 18%) et équivalente

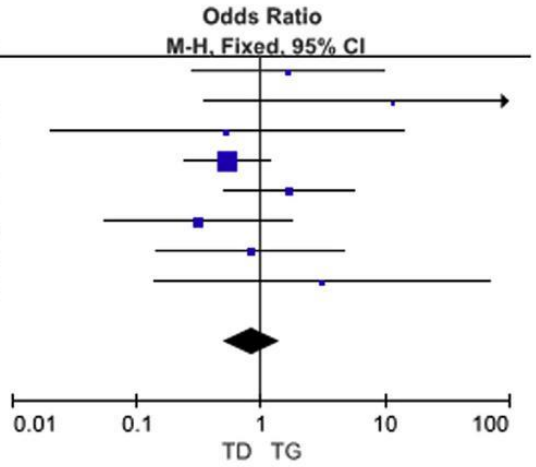
Uemera RS, et al. J Clin Gastroenterol 2017

TD vs TG – 3ème Méta-analyse

Wang et al GIE 2016

Study or Subgroup	TD Events	TD Total	TG Events	TG Total	Weight	Odds Ratio M-H, Fixed, 95% CI	Year
Park do, H. 2011	22	24	27	31	6.4%	1.63 [0.27, 9.74]	2011
Kim, T. H 2012	9	9	2	3	0.6%	11.40 [0.35, 374.01]	2012
Song, T. J 2014	16	17	10	10	3.5%	0.52 [0.02, 14.10]	2014
Gupta, K. 2014	75	89	132	145	51.2%	0.53 [0.24, 1.18]	2014
Kawakubo, K 2014	33	42	13	19	12.4%	1.69 [0.50, 5.71]	2014
Artifon, E. L. A 2014	17	22	22	24	15.5%	0.31 [0.05, 1.79]	2014
Poincloux, L 2015	27	29	66	70	8.6%	0.82 [0.14, 4.73]	2015
Park, D. H. 2015	11	11	18	20	1.8%	3.11 [0.14, 70.69]	2015
Total (95% CI)		**243**		**322**	**100.0%**	**0.84 [0.50, 1.42]**	
Total events	210		290				

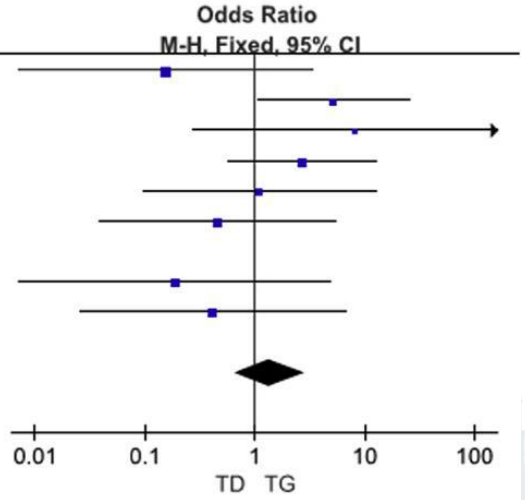
Heterogeneity: Chi² = 7.22, df = 7 (P = .41); I² = 3%
Test for overall effect: Z = 0.64 (P = .52)



Succès techn. 95%

Study or Subgroup	TD Events	TD Total	TG Events	TG Total	Weight	Odds Ratio M-H, Fixed, 95% CI	Year
Park do, H. 2011	24	26	31	31	21.7%	0.16 [0.01, 3.39]	2011
Iwashita, T. 2012	25	31	4	9	9.8%	5.21 [1.06, 25.50]	2012
Kim, T. H 2012	9	9	3	4	1.9%	8.14 [0.26, 250.73]	2012
Dhir, V 2014	65	68	32	36	15.0%	2.71 [0.57, 12.83]	2014
Kawakubo, K 2014	42	44	19	20	9.7%	1.11 [0.09, 12.95]	2014
Artifon, E. L. A 2014	22	24	24	25	15.9%	0.46 [0.04, 5.41]	2014
Song, T. J 2014	17	17	10	10		Not estimable	2014
Park, D. H. 2015	11	12	20	20	14.7%	0.19 [0.01, 4.97]	2015
Poincloux, L 2015	29	30	70	71	11.3%	0.41 [0.03, 6.85]	2015
Total (95% CI)		**261**		**226**	**100.0%**	**1.36 [0.66, 2.81]**	
Total events	244		213				

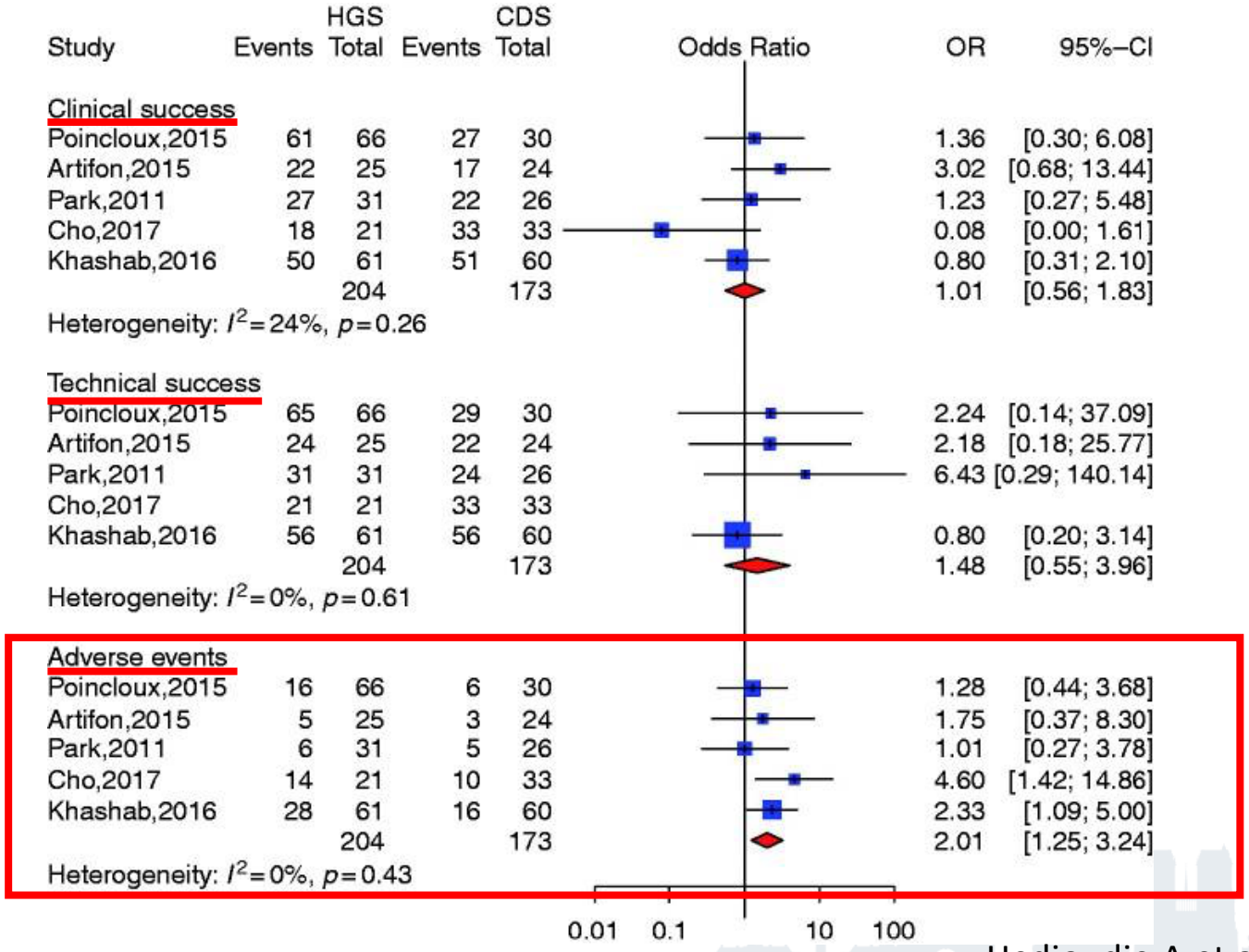
Heterogeneity: Chi² = 9.32, df = 7 (P = .23); I² = 25%
Test for overall effect: Z = 0.82 (P = .41)



Succès clinique 89%

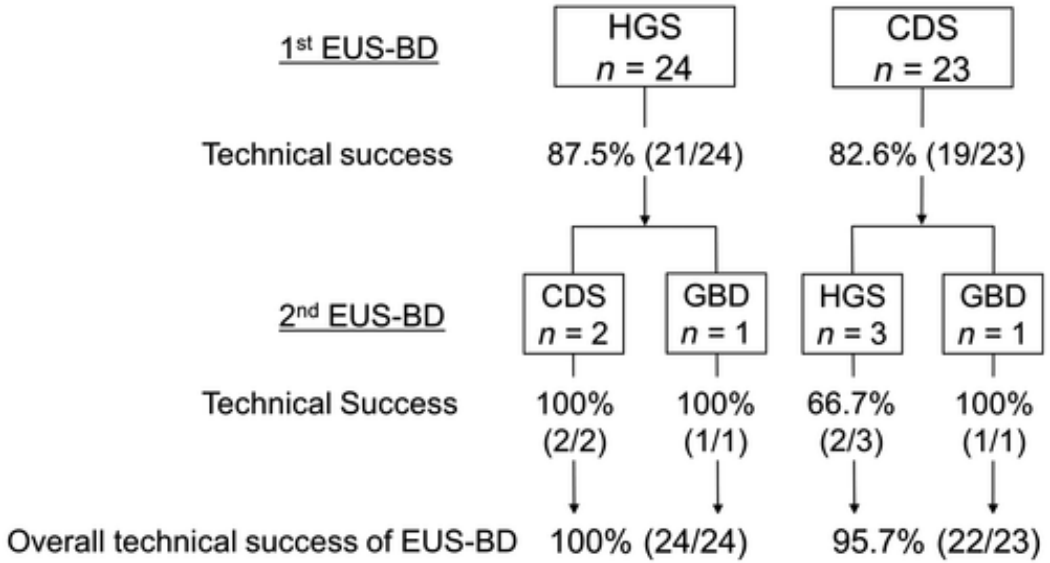
HG vs CD – 4ème Méta-analyse

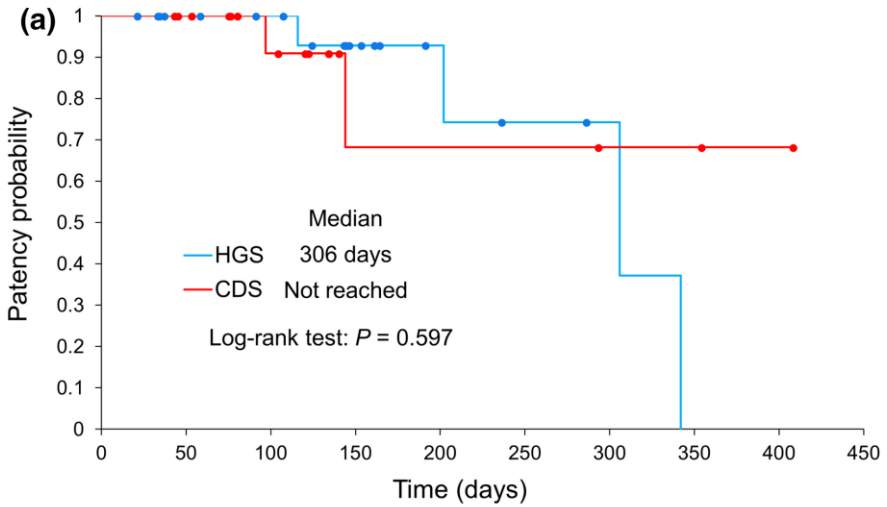
17 études dont 2 RCT

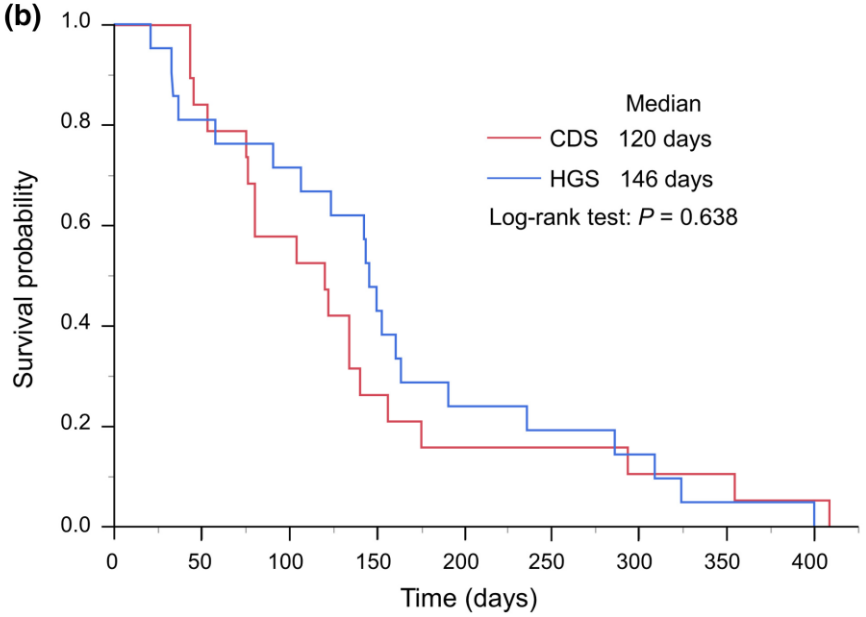


Hedjoudje A,et al. UEG Journal 2019; 7(1) 60–68

HG vs GD – le plus large RCT







Minaga K,et al. Dig Endosc 2019;31:575-582.

2- EUS-BD : HG ou CD ?

- Succès technique et clinique élevé avec GD ≈ HG

- Sécurité équivalente (18-20%)

3- EUS-BD : les facteurs influençant la décision ?

3- EUS-BD : les facteurs influençant la décision ?

- Siège de l'obstacle
- Nature de l'obstacle
- Dilatation des VBIH
- Ascite péri-hépatique

3- EUS-BD : les facteurs influençant la décision ?

- Siège de l'obstacle

Proximal vs Distal

Impose l'accès transhépatique
→ EUS-HG ++ > TH-Percut

N'impose aucun accès:
→ EUS-BD : CD ≈ HG ++

- Nature de l'obstacle
- Dilatation des voies biliaires
- Ascite péri-hépatique

3- EUS-BD : les facteurs influençant la décision ?

- Siège de l'obstacle
- Nature de l'obstacle
- Dilatation des voies biliaires
- Ascite péri-hépatique

Bénin vs Malin

Eviter les trajets extra-anatomiques
ou EUS-BD
???

3- EUS-BD : les facteurs influençant la décision ?

- Siège de l'obstacle
- Nature de l'obstacle
- Dilatation des voies biliaires
- Ascite péri-hépatique

Bénin vs Malin

Eviter les trajets extra-anatomiques
ou EUS-BD
???

Potentiellement curatif
→ EUS-BD avant DPC ??

Palliatif
→ EUS-BD

3- EUS-BD : les facteurs influençant la décision ?

- Siège de l'obstacle
- Nature de l'obstacle
- Dilatation des VBIH
- Ascite péri-hépatique

oui vs non

Tout est possible

EUS-BD : CD

3- EUS-BD : les facteurs influençant la décision ?

- Siège de l'obstacle
- Nature de l'obstacle
- Dilatation des voies biliaires
- Ascite péri-hépatique → EUS-BD: CD

3- EUS-BD : les facteurs influençant la décision ?

- Avant DPC ??

Seules données disponibles sur EUS-BD: CD

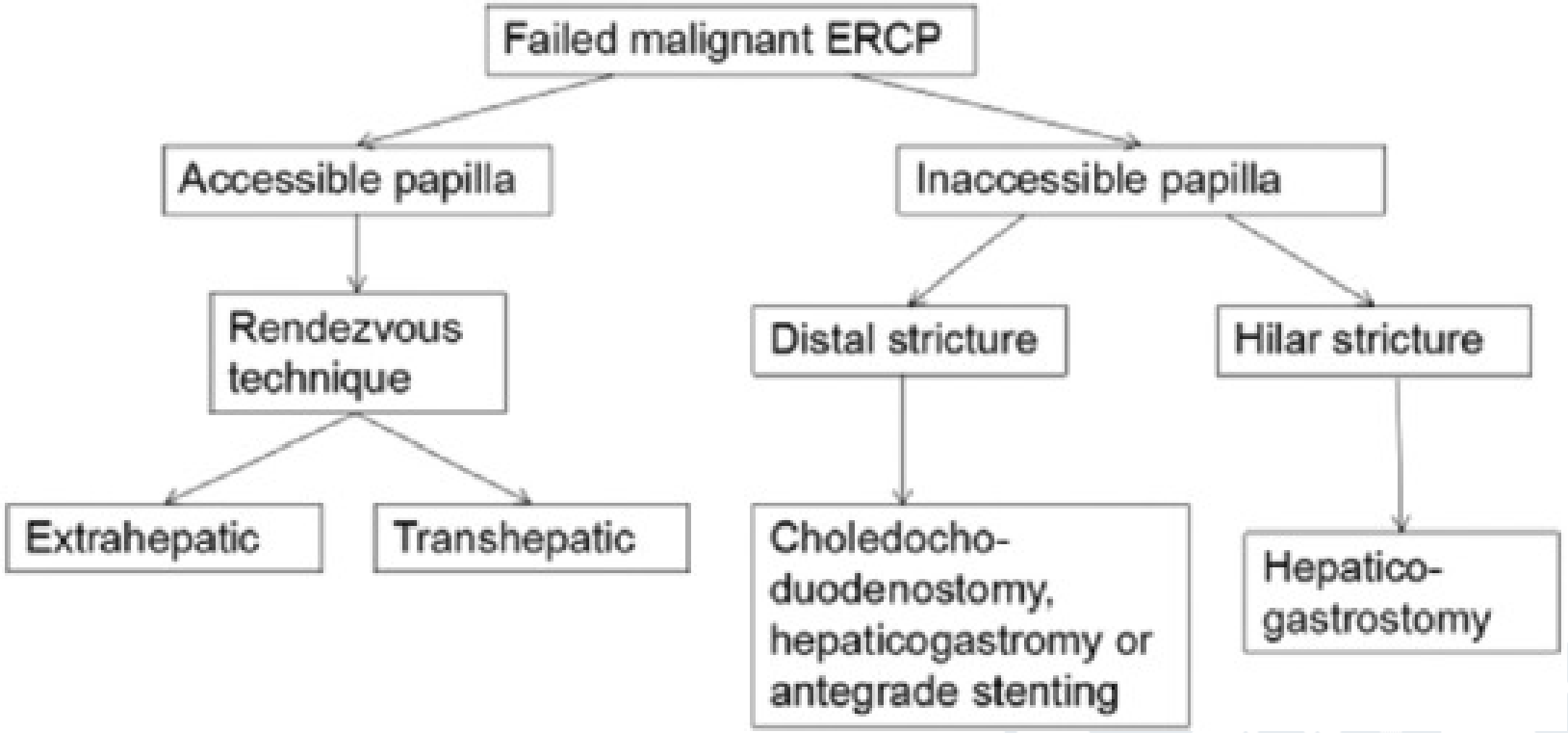
- **Pas de gène pour la DPC, pas de fistule biliaire**
- **Pas de récidive locale après 6 mois**

N=18, série rétro multicentrique expérience française
S Gaujoux, et al. (en cours de soumission)

→ Si échec de CPRE
→ En 1ère ligne ?

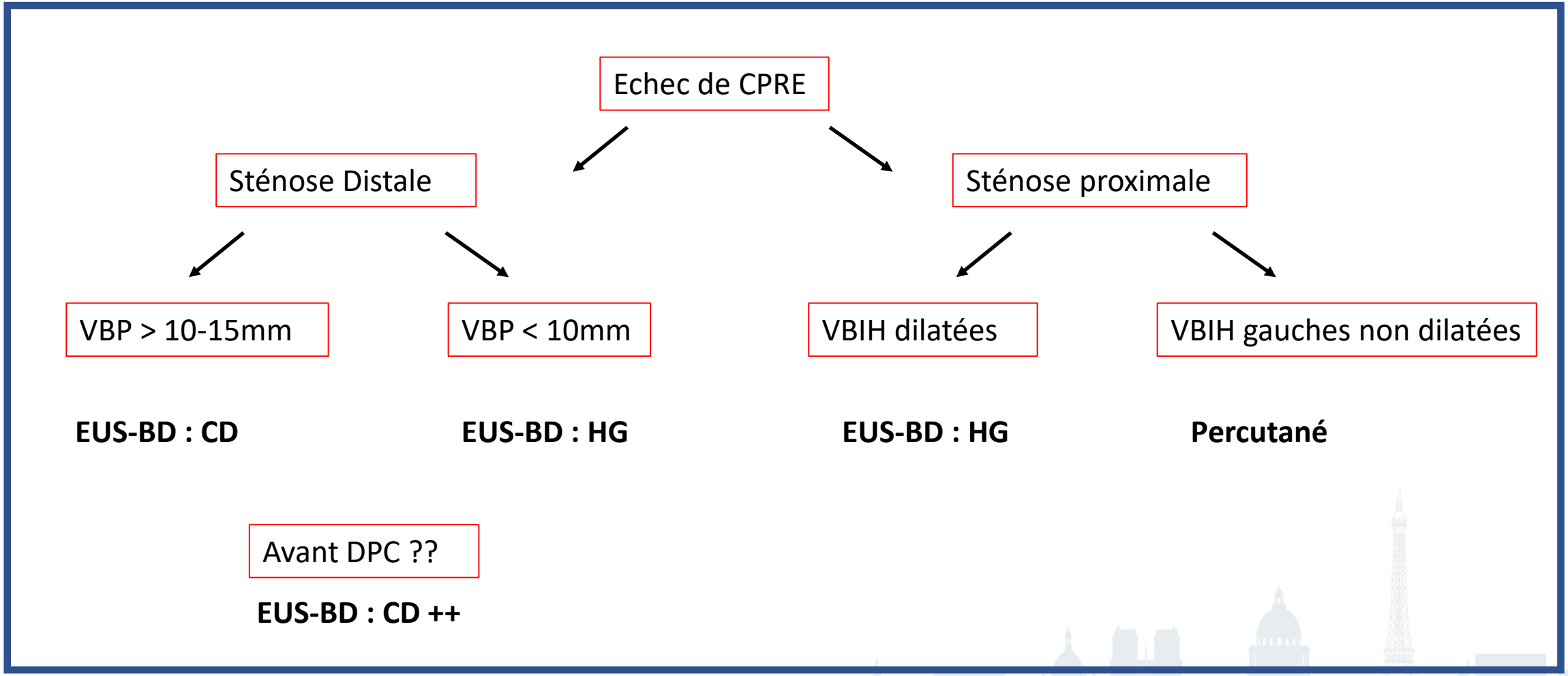
Arbre décisionnel ?

EUS-guided biliary drainage after failed ERCP: A novel algorithm individualized based on patient anatomy.



Tyberg A, et al. Gastrointest Endosc. 2016;84:941–6.

Proposition d'arbre décisionnel / ictère néoplasique



D Karsenti. Forum du CREGG 2019

Conclusion

1. **EUS-BD ≥ TH percutanée**
   - Meilleur taux de succès clinique probable
   - Moins d'effets secondaires
   - Plus faible taux de ré-interventions

2. **EUS-BD : CD ≈HG**
   - Sténose distale → plutôt CD
   - Sténose proximale → plutôt HG ou TH percut si VBIH droites exclusives

Hôtel Marriott
Rive Gauche Paris 14ème

forums Journée de réflexion & formations

du CREGG

5/6 et 7 Déc. 2019