Le insidie della reperibilità endoscopica: cosa non sbagliare

Dr. Andrea Lorenzo Inghilesi

UOC Gastroenterologia ed Endoscopia digestiva

USL Toscana Centro- Ospedale S. Giuseppe Empoli

fismad S.I.E.D. aigo SIGE

Congresso **TRISOCIETARIO**
AIGO SIED SIGE TOSCANA
Firenze 16 dicembre 2023
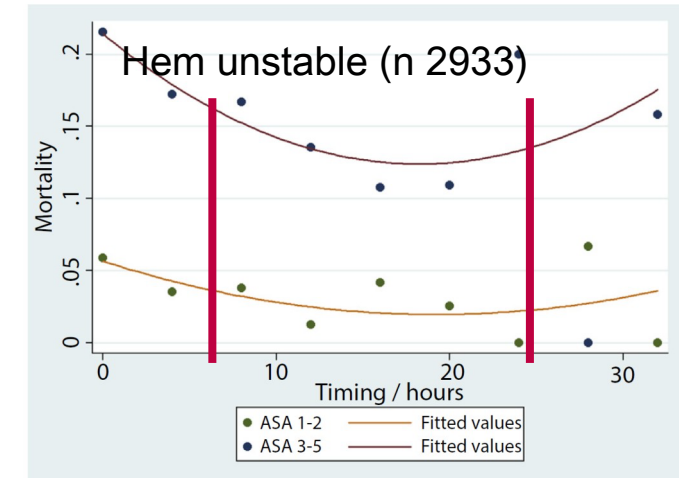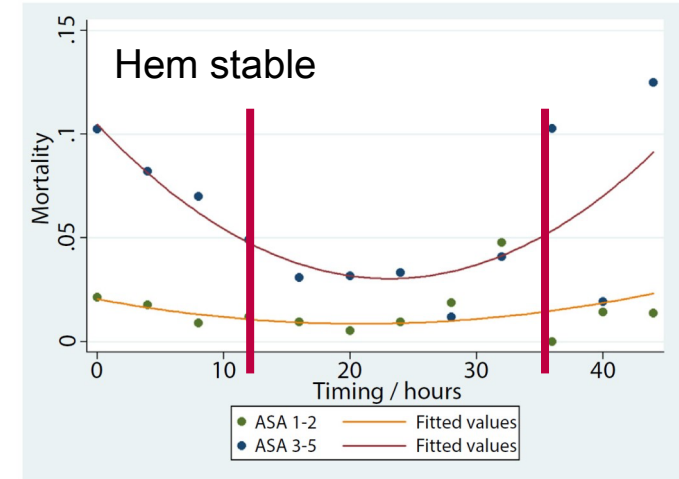
Upper Bleedings: timing

12601 pts 1985-2014 with peptic ulcer bleeding

stratified according to hemodinamic stability and ASA score

Laursen et al, Relationship between timing of endoscopy and mortality in patients with peptic ulcer bleeding: a nationwide cohort study; Gastrointest Endosc. 2017 May; 85 (5): 936-944
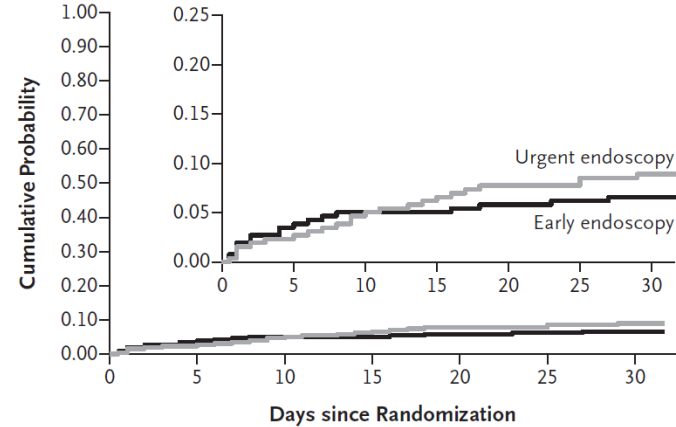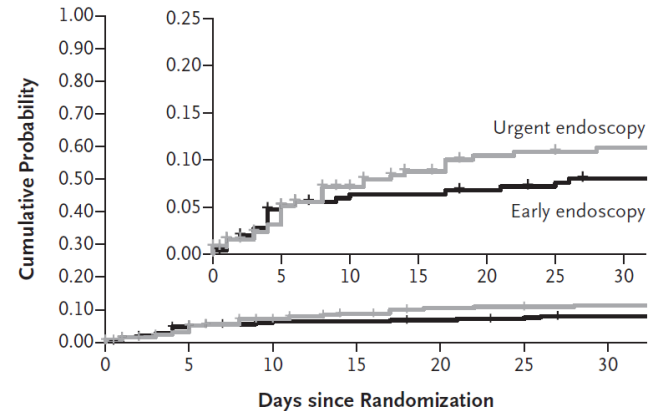
RCT 2012-2018

516 pts with UGIB and
GBs≥12 – no unstable

1:1 randomization to <6h
and 6-24h OGD

A **Cumulative Probability of Death**

Urgent endoscopy

Early endoscopy

B **Cumulative Probability of Further Bleeding**

Urgent endoscopy

Early endoscopy

Lau et al, Timing of endoscopy for acute upper gastrointestinal bleeding; N Engl J Med. 2020 Apr 2;382 (14): 1299-1308

Patients that
1. Presented to A&E with UGIB symptoms AND
2. Recieved therapeutic endoscopy at or within 48 hours of admission
(n = 6508)

Excluded
(n = 34)

Patients of age 18 or above
(n = 6474)

Urgent group;
t ≤ 6 hours
(n = 1008)

Early group;
6 < t ≤ 24 hours
(n = 3865)

Late group;
24 < t ≤ 48 hours
(n = 1601)

A 30d mortality

Cumulative Incidence (%)

Time (Days)

B 30d repeat therapeutic OGD

Cumulative Incidence (%)

Time (Days)

Urgent group
(t ≤ 6 hours)

Early group
(6 < t ≤ 24 hours)

Late group
(24 < t ≤ 48 hours)

Guo et al, Timing of endoscopy for acute upper gastrointestinal bleeding: a territory-wide cohort study; Gut 2022; 71: 1544-1550

5 RCTs

926 pts
<12h vs 12-24h

rebleeding: ns
mortality: ns
need for endoscopic
treatment: very early
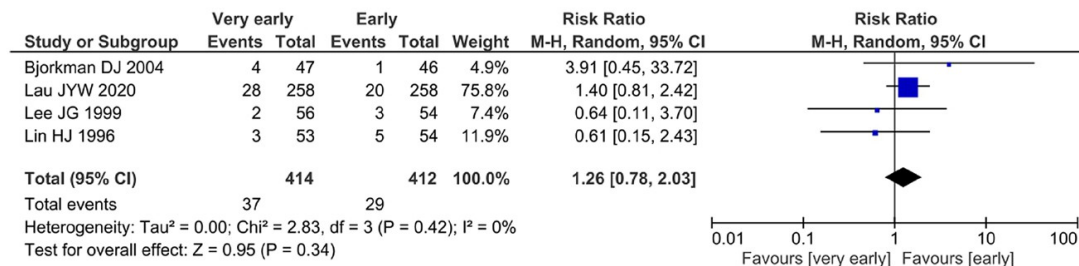
Fig. 1 Forest plot for the risk of rebleeding. *RR* risk ratio, *CI* confidence interval
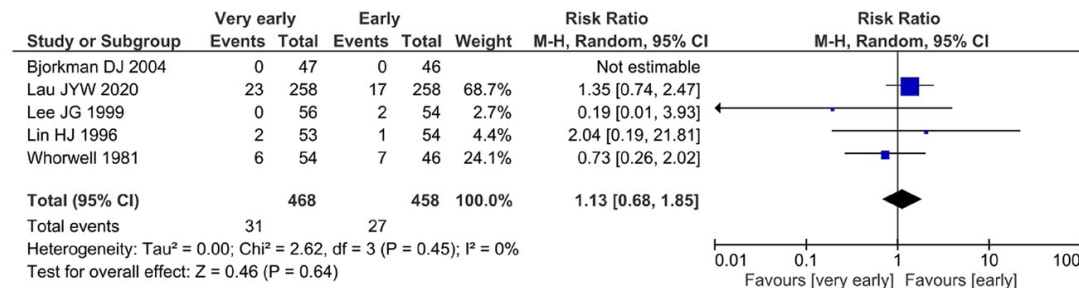
Fig. 2 Forest plot for mortality. *RR* risk ratio, *CI* confidence interval

THE SOONER THE BETTER?

RECOMMENDATION

ESGE recommends that following hemodynamic resuscitation, early (≤24 hours) upper GI endoscopy should be performed.

Strong recommendation, high quality evidence.

RECOMMENDATION

ESGE does not recommend urgent (≤12 hours) upper GI endoscopy since as compared to early endoscopy, patient outcomes are not improved.

Strong recommendation, high quality evidence.

RECOMMENDATION

ESGE does not recommend emergent (≤6 hours) upper GI endoscopy since this may be associated with worse patient outcomes.

Strong recommendation, moderate quality evidence.

Upper Bleedings: variceal risk

Investigate hepatopaty and alchool

⬇
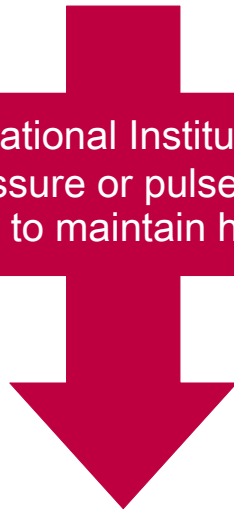
Vasoactive therapy

Antibiotics

OGD <12h if hemodinamically stable, ASAP if instable

De Franchis et al, Baveno VII – Renewing consensus in portal hypertension; J Hepatol. 2022 Apr; 76(4): 959-974

Bleedings: Stable vs Unstable

"Hemodinamic instability is defined by the National Institute for Health and Care Excellence as active bleeding where blood pressure or pulse cannot be normalised or where rapid intravenous fluids are required to maintain hemodinamic stability"

ASAP?
<12h?
<24h?

Take time to
- perform an adequate resuscitation
- optimize the treatment of comorbidities

BUT

Do not delay OGD in case of severe instability not responding to intensive resuscitation

Laursen et al, Relationship between timing of endoscopy and mortality in patients with peptic ulcer bleeding: a nationwide cohort study; Gastrointest Endosc. 2017 May; 85 (5): 936-944
Siau et al, BSG-led multisociety consensus care bundle for the early clinical management of acute upper gi bleeding. Frontline Gastroenterol. 2020 Mar; 27:11(4): 311-323

Bleedings: coagulation disorders

AUGIB → **STOP EVERYTHING EXCEPT ASA IN SECONDARY PROPHYLAXIS**   **Call Cardiologist for double antiplatelet secondary prophylaxis**

AUGIB:
- **HEM INSTABLE** →
  - VKAs: give VK and PCC (FFP if unavailable)
  - NOAC: in severe ongoing bleeding give reversal agents or PCC
  → **OGD**
- **HEM STABLE** → Wait for INR and plt → Corrections → OGD

Gralnek et al, Endoscopic diagnosis and management of NVUGIH: ESGE Guideline – Update 2021. Endoscopy. 2021 Mar; 53(3): 300-332

Lower GI bleedings: timing

> **RECOMMENDATION**
>
> ESGE recommends that colonoscopy should be the first diagnostic modality for hemodynamically stable patients with acute lower gastrointestinal bleeding because of the therapeutic options it offers.
>
> Strong recommendation, very low-quality evidence.

ACG · aga American Gastroenterological Association · The Japanese Gastroenterological Association JGA ➡ **<24h**

bsg BRITISH SOCIETY OF GASTROENTEROLOGY · European Society of Gastrointestinal Endoscopy ESGE *Working together in endoscopy to achieve optimal patient care.* ➡ **inpatient**

Triantafyllou K. Diagnosis and management of acute lower gastrointestinal bleeding: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. Endoscopy. 2021 Aug;53(8):850-868.

Timing of Colonoscopy in Acute Lower Gastrointestinal Bleeding: A Multicenter Retrospective Cohort Study

49 Hospitals in Japan   N=4133 (early, ≤24 h) vs 1137 (elective, 24–48 h) vs 1000 (late, 48–120 h)

Implication of early colonoscopy

SRH	Improved (vs elective, late)
Rebleeding	Worsened (vs elective, late)
Mortality	No difference
IVR/Surgery requirement	No difference
Blood transfusion	No difference
LOS	Improved (vs elective, late)

Patients who benefit with early colonoscopy

Shock index ≥1

→ Early colonoscopy improved IVR/Surgery risk

Performance status ≥3

→ Early colonoscopy improved rebleeding risk

Gastrointestinal Endoscopy

Shiratori Y, Ishii N, and Nagata N et al.

Lower GI bleedings: diagnostic path

Oakland K et al, Diagnosis and management of acute lower gastrointestinal bleeding: guidelines from the British Society of Gastroenterology. Gut. 2019 May;68(5):776-789.
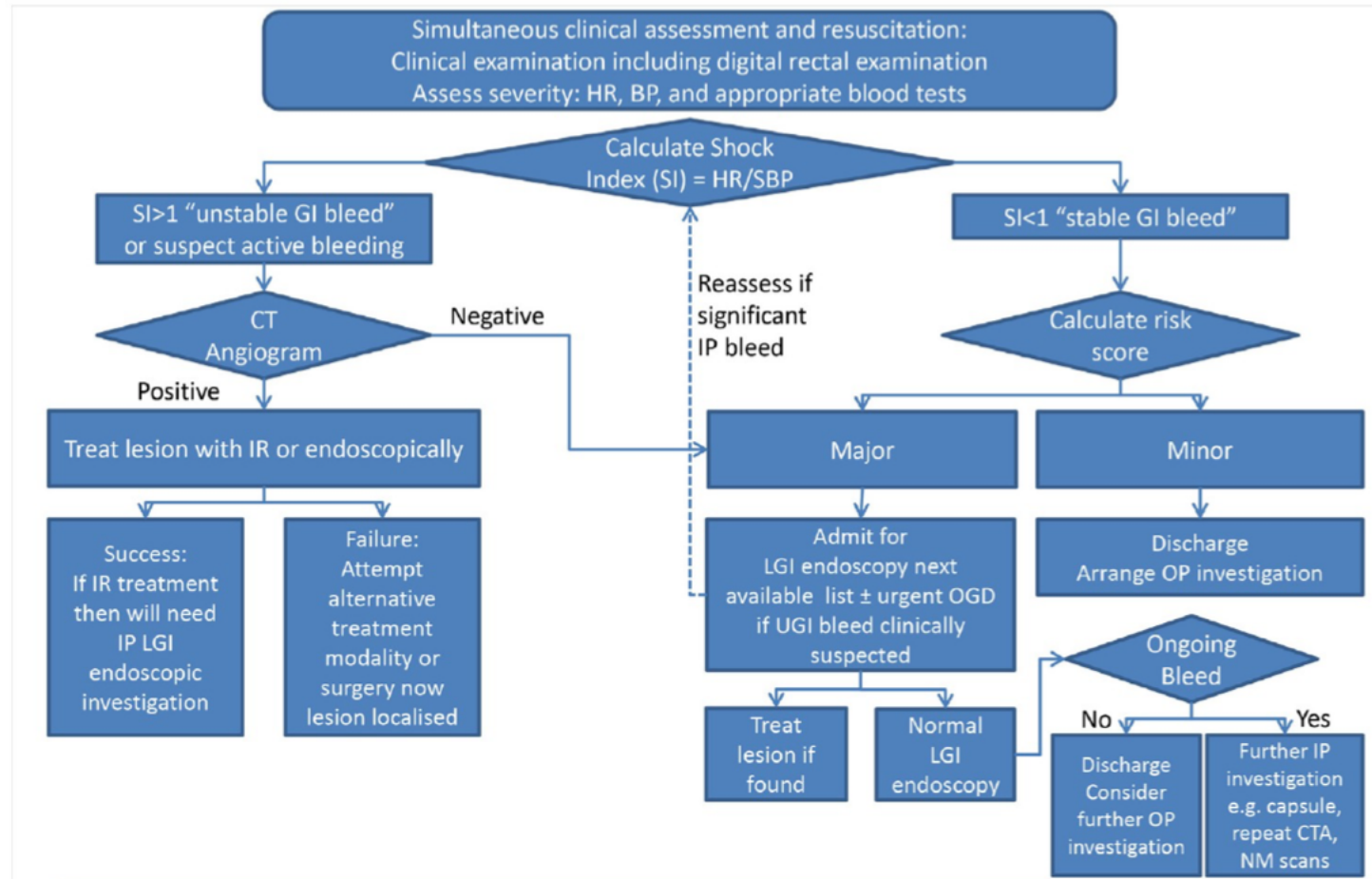
Lower GI bleedings: preparation

RECOMMENDATION
ESGE does not recommend unprepped lower gastrointestinal endoscopy (e.g. colonoscopy, sigmoidoscopy) in patients with acute lower gastrointestinal bleeding.
Strong recommendation, low quality evidence.

colonoscopy should therefore be the aim. However, in cases where CTA has identified a bleeding source in the rectum or sigmoid colon, flexible sigmoidoscopy can be considered.

Triantafyllou K. Diagnosis and management of acute lower gastrointestinal bleeding: European Society of Gastrointestinal Endoscopy (ESGE) Guideline. Endoscopy. 2021 Aug;53(8):850-868.

n 12

Immediate Unprepped Hydroflush Colonoscopy for Severe Lower GI Bleeding: A Feasibility Study

Aparna Repaka, MD, Matthew R. Atkinson, MD, Ashley L. Faulx, MD, Gerard A. Isenberg, MD, MBA, Gregory S. Cooper, MD, Amitabh Chak, MD, and Richard C. K. Wong, MBBS

Division of Gastroenterology and Liver Disease, Digestive Health Institute, University Hospitals Case Medical Center and Case Western Reserve University, Cleveland, Ohio, USA

Geriatrics Gerontology INTERNATIONAL

n 33

ORIGINAL ARTICLE
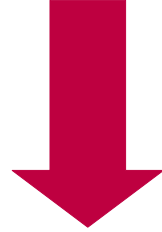
EPIDEMIOLOGY, CLINICAL PRACTICE AND HEALTH

Immediate unprepared polyethylene glycol-flush colonoscopy in elderly patients with severe lower gastrointestinal bleeding

Özlem Gül Utku[1] and Eylem Karatay[2]

4-6 L PEG prep in 3-4 h

Time to test low-volume prep???

CPRE: when
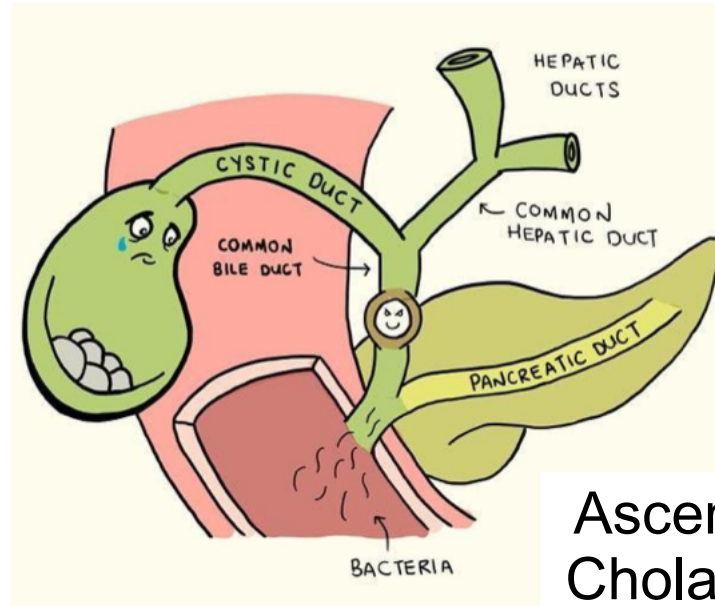
Ascending Cholangitis

Severity assessment criteria for acute cholangitis: Tokyo guideline

Table 3 TG18/TG13 severity assessment criteria for acute cholangitis

Grade III (severe) acute cholangitis

"Grade III" acute cholangitis is defined as acute cholangitis that is associated with the onset of dysfunction at least in any one of the following organs/systems:

1. Cardiovascular dysfunction: hypotension requiring dopamine ≥5 μg/kg per min, or any dose of norepinephrine
2. Neurological dysfunction: disturbance of consciousness
3. Respiratory dysfunction: PaO_2/FiO_2 ratio <300
4. Renal dysfunction: oliguria, serum creatinine >2.0 mg/dl
5. Hepatic dysfunction: PT-INR >1.5
6. Hematological dysfunction: platelet count <100,000/mm^3

Grade II (moderate) acute cholangitis

"Grade II" acute cholangitis is associated with any two of the following conditions:

1. Abnormal WBC count (>12,000/mm^3, <4,000/mm^3)
2. High fever (≥39°C)
3. Age (≥75 years)
4. Hyperbilirubinemia (total bilirubin ≥5 mg/dl)
5. Hypoalbuminemia (<STD × 0.7)

Grade I (mild) acute cholangitis

"Grade I" acute cholangitis does not meet the criteria of "Grade III (severe)" or "Grade II (moderate)" acute cholangitis at initial diagnosis

Timing?
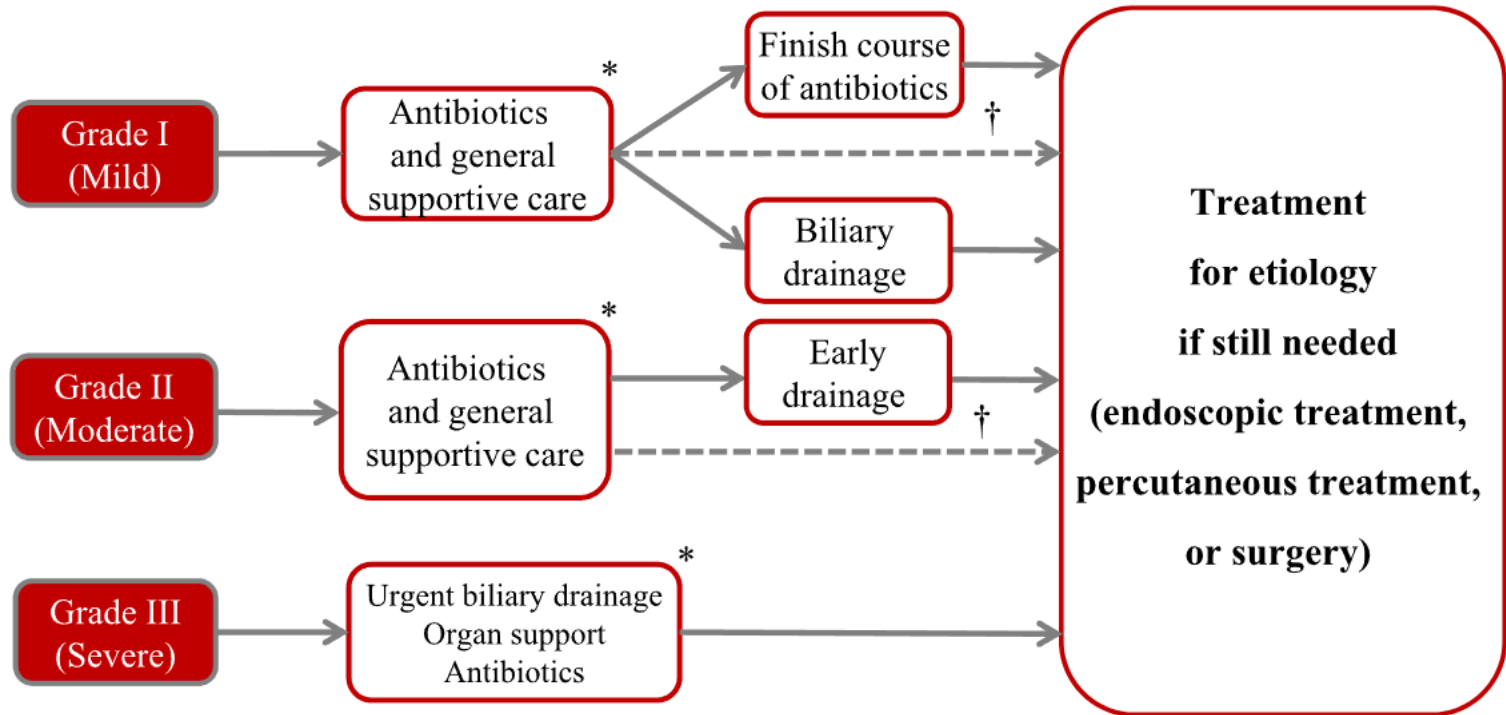
RECOMMENDATION

ESGE recommends the following timing for biliary drainage, preferably endoscopic, in patients with acute cholangitis, classified according to the 2018 Tokyo Guidelines:

- severe, as soon as possible and within 12 hours for patients with septic shock
- moderate, within 48 – 72 hours
- mild, elective.

Strong recommendation, low quality evidence.

ESGE

Question 2: In patients with cholangitis, does ERCP performed at ≤48 hours after admission improve clinical outcomes relative to patients undergoing ERCP at >48 hours?

Recommendation 2: For patients with cholangitis, we suggest the performance of ERCP in ≤48 hours compared with >48 hours. (*Conditional recommendation, Very low quality of evidence*).

ASGE

Manes G et al, Endoscopic management of common bile duct stones: ESGE Guidelines. Endoscopy 2019
Buxbaum JL et al. ASGE guideline on the management of acute cholangitis. Gastrointestinal Endoscopy 2021

Emergent versus urgent ERCP in acute cholangitis: a systematic review and meta-analysis

n>7000

Umair Iqbal [1], Harshit S Khara [2], Yirui Hu [3], Muhammad Ali Khan [4], Anais Ovalle [5], Osama Siddique [6], Haiyan Sun [7], Matthew Joshua Shellenberger [8]
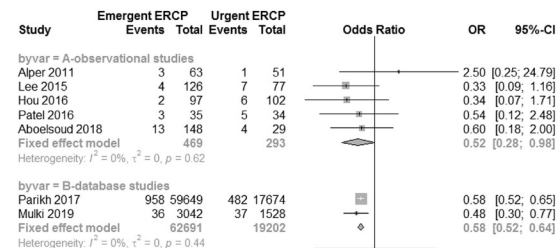
Inp mortality

30d mortality

Lenght of hosp

N 4500

Ramzi Mulki, Rushikesh Shah, Emad Qayed

TABLE 2. List of population, intervention, comparator, outcomes questions addressed

Population	Intervention	Comparator	Outcomes	Rating
1. Cholangitis*	ERCP with decompression	Percutaneous cholangiography with drainage	1) Successful decompression	Critical
			2) Mortality	Critical
			3) Length of hospitalization	Important
			4) Adverse events (pancreatitis, bile leak, hemorrhage, perforation)	Critical
2. Cholangitis*	ERCP in ≤48 h	ERCP > 48 h	1) Mortality	Critical
			2) Length of hospitalization	Important
			3) Organ failure	Critical
			4) 30-Day organ failure	Critical
3. Cholangitis*	ERCP with sphincterotomy, stone removal, lithotripsy, and decompression	ERCP with decompression alone	1) Successful decompression	Critical
			2) Adverse events	Critical
			3) Repeat procedures (ERCP, percutaneous cholangiography, surgery)	Critical
			4) Length of hospitalization	Important

Iqbal U et al, emergent versus urgentERCP in acute cholangitis: a sistematic review and metanalysis. Gastrointestinal Endoscopy 2019
Mulki R et al, Eraly vs late ERCPin patients with acute cholangitis: a nationwide analysis. World J Gastrointestinal Endoscopy 2019

RECOMMENDATION

ESGE recommends the following timing for biliary drainage, preferably endoscopic, in patients with acute cholangitis, classified according to the 2018 Tokyo Guidelines:

- severe, as soon as possible and within 12 hours for patients with septic shock
- moderate, within 48 – 72 hours
- mild, elective.

Strong recommendation, low quality evidence.

comes.[13,14,22-25] Nevertheless, among patients in septic shock who do not respond to fluid resuscitation, delay of ERCP is associated with adverse events and ERCP in <24 hours may be considered in this population.[26]

Manes G et al, Endoscopic management of common bile duct stones: ESGE Guidelines. Endoscopy 2019

The impact of delayed biliary decompression and anti-microbial therapy in 260 patients with cholangitis-associated septic shock

C. J. Karvellas*[,†], J. G. Abraldes[†], S. Zepeda-Gomez[†], D. C. Moffat[‡], Y. Mirzanejad[§], G. Vazquez-Grande[¶,**],
E. K. Esfahani[**] & A. Kumar[¶,††] For the Cooperative Antimicrobial Therapy of Septic Shock (CATSS) Database
Research Group

PANEL (a)

PANEL (b)
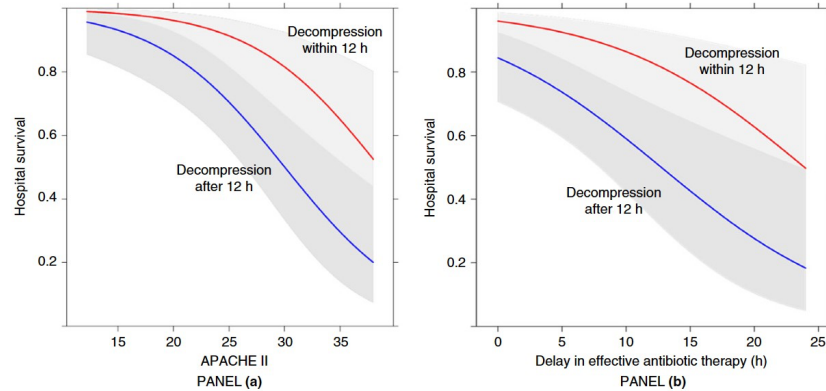
Conclusions

Patients with septic shock secondary to acute cholangitis have significant mortality. Endoscopic biliary decompression >12 h after the onset of shock and delayed receipt of appropriate anti-microbial therapy were both significantly associated with adverse hospital outcome. This might suggest that early initiation of anti-microbial therapy and urgent biliary decompression (within 12 h) could potentially improve outcomes in this high-risk patient population.

Colonic stent: general considerations

RECOMMENDATION
ESGE recommends colonic stenting to be reserved for patients with clinical symptoms and radiological signs of malignant large-bowel obstruction, without signs of perforation. ESGE does not recommend prophylactic stent placement.
Strong recommendation, low quality evidence.

RECOMMENDATION
ESGE recommends performing contrast-enhanced computed tomography (CT) scan when malignant colonic obstruction is suspected.
Strong recommendation, low quality evidence.

RECOMMENDATION
ESGE suggests reluctance regarding colonic stenting of long-segment stenosis in a curative setting.
Weak recommendation, low quality evidence.

RECOMMENDATION
ESGE recommends that colonic stenting should be performed or directly supervised by an operator who can demonstrate competence in both colonoscopy and fluoroscopic techniques and who performs colonic stenting on a regular basis.
Strong recommendation, low quality evidence.

van Hooft JE et al. Self-expandable metal stents for obstructing colonic and extracolonic cancer: ESGE Guideline - Update 2020. Endoscopy. 2020 May;52(5):389-407.

PALLIATIVE

RECOMMENDATION
ESGE recommends colonic stenting as the preferred treatment for palliation of malignant colonic obstruction. Strong recommendation, high quality evidence.

CURATIVE

RECOMMENDATION
ESGE recommends stenting as a bridge to surgery to be discussed, within a shared decision-making process, as a treatment option in patients with potentially curable left-sided obstructing colon cancer as an alternative to emergency resection. This discussion should include the following factors: availability of required stenting expertise, risk of stent-related perforation, higher recurrence rates, similar overall survival and postoperative mortality, lower overall complication rates and permanent stoma rates, higher proportion of laparoscopic one-stage surgery procedures, and technical and clinical failure rates of stenting.
Strong recommendation, high quality evidence.

van Hooft JE et al. Self-expandable metal stents for obstructing colonic and extracolonic cancer: ESGE Guideline - Update 2020. Endoscopy. 2020 May;52(5):389-407.

Colonic stenting versus emergency surgery for acute left-sided malignant colonic obstruction: a multicentre randomised trial

Jeanin E van Hooft, Willem A Bemelman, Bas Oldenburg, Andreas W Marinelli, Martijn F Lutke Holzik, Marina J Grubben, Mirjam A Sprangers, Marcel G Dijkgraaf, Paul Fockens, for the collaborative Dutch Stent-In study group*

Colorectal Endoscopic Stenting Trial (CReST) for obstructing left-sided colorectal cancer: randomized clinical trial

CReST Collaborative Group

Long-term Oncologic Results After Stenting as a Bridge to Surgery Versus Emergency Surgery for Malignant Left-sided Colonic Obstruction
A Multicenter Randomized Controlled Trial (ESCO Trial)

Alberto Arezzo,* Edoardo Forcignanò,* Marco Augusto Bonino,* Carmen Balagué,† Eduardo Targarona,† Felice Borghi,‡ Giorgio Giraudo,‡ Luigi Ghezzo,‡ Roberto Passera,§ and Mario Morino*✉, on behalf of the collaborative ESCO study group

Mortality rate

Study	SBTS Events	Total	ES Events	Total		RR	95% CI	Weight (fixed)	Weight (random)
Alcantara 2011	0	15	1	13		0.29	[0.01 – 6.55]	9.0%	4.4%
van Hooft 2011	9	47	9	51		1.09	[0.47 – 2.50]	48.7%	61.4%
Pirlet 2011	3	30	1	30		3.00	[0.33 – 27.23]	5.6%	8.8%
Ho 2012	0	20	3	19		0.14	[0.01 – 2.46]	20.2%	5.1%
Arezzo 2016	4	56	3	59		1.40	[0.33 – 6.00]	16.5%	20.3%
Fixed effect model		168		172		0.98	[0.53 – 1.82]	100.0%	—
Random effects model						1.06	[0.55 – 2.04]	—	100.0%

Heterogeneity: $I^2 = 0\%$, $\tau^2 = 0$, $P = .46$

Overall adverse events

Study	SBTS Events	Total	ES Events	Total		RR	95% CI	W(fixed)	W(random)
Cheung 2009	2	24	17	24		0.12	[0.03 – 0.45]	13.6%	7.4%
Alcantara 2011	2	15	7	13		0.25	[0.06 – 0.99]	6.0%	7.2%
Cui 2011	1	29	2	20		0.34	[0.03 – 3.55]	1.9%	3.2%
van Hooft 2011	25	47	23	51		1.18	[0.79 – 1.77]	17.6%	19.0%
Pirlet 2011	15	30	17	30		0.88	[0.55 – 1.42]	13.6%	18.0%
Ho 2012	7	20	11	19		0.60	[0.30 – 1.23]	9.0%	14.4%
Ghazal 2013	4	30	15	30		0.27	[0.10 – 0.71]	12.0%	10.9%
Arezzo 2016	29	56	34	59		0.90	[0.64 – 1.26]	26.4%	20.0%
Fixed effect model		251		246		0.69	[0.56 – 0.85]	100%	—
Random effects model						0.59	[0.38 – 0.93]	—	100%

Heterogeneity: I-squared=69.6%, tau-squared=0.2348, P = .0017

Temporary stoma

Study	SBTS Events	Total	ES Events	Total		RR	95% CI	W(fixed)	W(random)
Cheung 2009	8	24	15	24		0.53	[0.28 – 1.02]	13.6%	12.3%
Alcantara 2011	1	15	4	13		0.22	[0.03 – 1.70]	3.9%	1.4%
Cui 2011	11	29	7	20		1.08	[0.51 – 2.31]	7.5%	9.2%
van Hooft 2011	29	47	39	51		0.81	[0.61 – 1.06]	33.8%	43.4%
Pirlet 2011	13	30	17	30		0.76	[0.46 – 1.28]	15.4%	17.9%
Ho 2012	2	20	6	19		0.32	[0.07 – 1.38]	5.6%	2.6%
Arezzo 2016	11	56	23	59		0.50	[0.27 – 0.94]	20.3%	13.2%
Fixed effect model		221		216		0.67	[0.54 – 0.83]	100%	—
Random effects model						0.70	[0.55 – 0.90]	—	100%

Heterogeneity: I-squared=14.1%, tau-squared=0.0159, P = .3219

Permanent stoma

Study	SBTS Events	Total	ES Events	Total		RR	95% CI	W(fixed)	W(random)
Cheung 2009	0	24	6	24		0.08	[0.00 – 1.29]	8.5%	3.1%
Alcantara 2011	1	15	4	13		0.22	[0.03 – 1.70]	5.6%	5.4%
Cui 2011	2	29	7	20		0.20	[0.05 – 0.85]	10.9%	9.4%
van Hooft 2011	27	47	34	51		0.86	[0.63 – 1.18]	42.7%	35.4%
Pirlet 2011	9	30	8	30		1.12	[0.50 – 2.52]	10.5%	20.3%
Ho 2012	1	20	2	19		0.48	[0.05 – 4.82]	2.7%	4.4%
Arezzo 2016	9	56	15	59		0.63	[0.30 – 1.33]	19.1%	22.0%
Fixed effect model		221		216		0.66	[0.50 – 0.87]	100%	—
Random effects model						0.62	[0.37 – 1.04]	—	100%

Heterogeneity: I-squared=43%, tau-squared=0.1678, P = .1043

Successful primary anastomosis

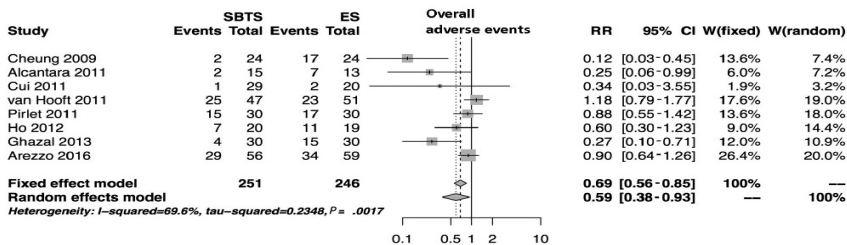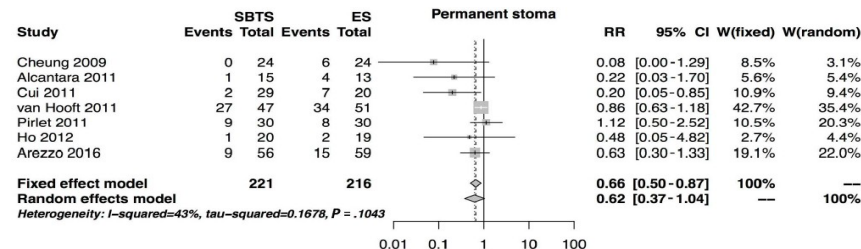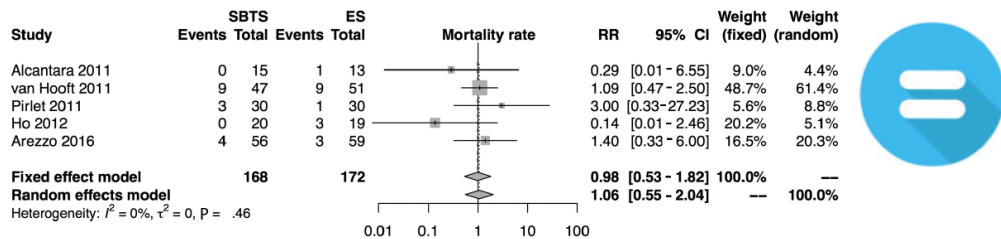| Study	SBTS Events	Total	ES Events	Total		RR	95% CI	W(fixed)	W(random)
Cheung 2009	20	24	11	24		1.82	[1.14 – 2.91]	8.2%	11.0%
Alcantara 2011	14	15	9	13		1.35	[0.92 – 1.98]	7.2%	12.7%
Cui 2011	18	29	7	20		1.77	[0.92 – 3.44]	6.2%	8.0%
van Hooft 2011	15	47	11	51		1.48	[0.76 – 2.89]	7.8%	7.9%
Pirlet 2011	16	30	11	30		1.45	[0.82 – 2.59]	8.2%	9.2%
Ho 2012	20	20	19	19		1.00	[0.91 – 1.10]	14.8%	17.8%
Ghazal 2013	29	29	29	30		1.03	[0.97 – 1.10]	21.6%	18.1%
Arezzo 2016	43	56	36	59		1.26	[0.98 – 1.62]	26.1%	15.4%
Fixed effect model		250		246		1.29	[1.14 – 1.46]	100%	—
Random effects model						1.29	[1.01 – 1.66]	—	100%

Heterogeneity: I-squared=90.3%, tau-squared=0.0877, P < .0001

Recurrence rate

Study	SBTS Events	Total	ES Events	Total		RR	95% CI	Weight (fixed)	Weight (random)
Cheung 2009	11	24	3	24		3.67	[1.17 – 11.52]	9.2%	19.4%
Alcantara 2011	8	15	2	13		3.47	[0.89 – 13.51]	6.6%	15.8%
van Hooft 2011	13	26	9	32		1.78	[0.91 – 3.49]	24.7%	30.4%
Arezzo 2016	17	56	20	59		0.90	[0.53 – 1.53]	59.6%	34.3%
Fixed effect model		121		128		1.54	[1.06 – 2.22]	100.0%	—
Random effects model						1.80	[0.91 – 3.55]	—	100.0%

Heterogeneity: $I^2 = 61\%$, $\tau^2 = 0.2758$, $P = .05$

Arezzo A et al. Stent as bridge to surgery for left-sided malignant colonic obstruction reduces adverse events and stoma rate compared with emergency surgery: results of a systematic review and meta-analysis of randomized controlled trials. Gastrointest Endosc. 2017 Sep;86(3):416-426.
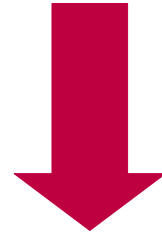
Caustics: timing

aldehydes and protein denaturation. Ammonia induces superficial haemorrhagic gastritis, which might progress 24–48 h after ingestion and requires specific surveillance.

Delay OGD at least 12h (if possible) in order to avoid lesions underestimation

Chirica M, Bonavina L, Kelly MD, Sarfati E, Cattan P. Caustic ingestion. Lancet. 2017 May 20;389(10083):2041-2052.

Foreign bodies: timing

Table 3 Timing of endoscopic intervention in foreign body ingestions: emergent is preferably within 2 hours, but at latest within 6 hours; urgent, within 24 hours; nonurgent, within 72 hours.

Object type	Location	Timing
Battery	Esophagus	Emergent
~~Magnet~~	~~Stomach/small bowel~~	~~Urgent~~
~~Magnet~~	~~Esophagus~~	~~Urgent~~
	~~Stomach/small bowel~~	~~Urgent~~
Sharp-pointed foreign body	Esophagus	Emergent
	~~Stomach/small bowel~~	~~Urgent~~
~~Blunt and small foreign body <2 – 2.5 cm diameter~~	~~Esophagus~~	~~Urgent~~
	~~Stomach/small bowel~~	~~Nonurgent~~
~~Blunt and medium-sized foreign body >2 – 2.5 cm diameter~~	~~Esophagus~~	~~Urgent~~
	~~Stomach/small bowel~~	~~Nonurgent~~
~~Large foreign body> 5 – 6 cm~~	~~Esophagus~~	~~Urgent~~
	~~Stomach/small bowel~~	~~Urgent~~
Food bolus	Esophagus	Emergent (urgent if without symptoms or without complete obstruction)

Birk M et al. Removal of foreign bodies in the upper gastrointestinal tract in adults: ESGE Clinical Guideline. Endoscopy. 2016 May;48(5):489-96.