PANEL ChIMMACC

Preoperative Antibiotic vs No Antibiotics in Early Laparoscopic Cholecystectomy In Mild-Moderate Acute Calculous Cholecystitis: an international RCT

Today's objective: recruit centres

PANEL ChIMMACC

...SURGEONS AGAINST ANTIMICROBIAL RESISTENCE...

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Why this study?

ACC

One of the most common surgical emergencies

ELC = source control

Early cholecystectomy as definitive treatment

Better use of antibiotics

Reduce unnecessary exposure and selective pressure

In selected patients, can we avoid preoperative antibiotics without increasing infections?

Previous studies

Randomized Controlled Trial > J Hepatobiliary Pancreat Sci. 2023 Apr;30(4):482-492.
doi: 10.1002/jhbp.1237. Epub 2022 Sep 15.

Clinical significance of preoperative antibiotic use in mild to moderate acute inflammatory gallbladder disease: A randomized controlled trial

Sung Eun Park [1], Ho Jung Choi [1], Young Kyoung You [1], Tae Ho Hong [1]

Affiliations + expand

PMI

Randomized Controlled Trial > Langenbecks Arch Surg. 2020 Dec;405(8):1201-1207.
doi: 10.1007/s00423-020-01977-x. Epub 2020 Aug 29.

Antibiotic prophylaxis in acute cholecystectomy revisited: results of a double-blind randomised controlled trial

Gona Jaafar [1], Gabriel Sandblom [2], Lars Lundell [3 4], Folke Hammarqvist [1]

Clinical Trial > Br J Surg. 2022 Feb 24;109(3):267-273. doi: 10.1093/bjs/znab441.

Antibiotic prophylaxis for acute cholecystectomy: PEANUTS II multicentre randomized non-inferiority clinical trial

Willemieke G van Braak [1], Jeroen E H Ponten [2], Charlotte S Loozen [1], Judith P M Schots [2], Anna A W van Geloven [3], Sandra C Donkervoort [4], Grard A P Nieuwenhuijzen [2], Marc G Besselink [5], Tjarda N T van Heek [6], Philip R de Reuver [7], Bart Vlaminckx [8], Johannes C Kelder [9], Catherijne A J Knibbe [10], Hjalmar C van Santvoort [1], Djamila Boerma [1]

Affiliations + expand

PMID: 35020797 DOI: 10.1093/bjs/znab441

> Transl Gastroenterol Hepatol. 2023 Oct 24:8:37. doi: 10.21037/tgh-23-48. eCollection 2023.

Preoperative antibiotic prophylaxis in acute cholecystectomy: a systematic review and meta-analysis of randomised controlled trials

Anurag Singh [1], Mandeep Kaur [1], Christie Swaminathan [1], Atreya Subramanian [1], Krishna K Singh [1], Muhammad S Sajid [1]

Affiliations + expand

PMID: 38021359 PMCID: PMC10643220 DOI: 10.21037/tgh-23-48

The clinical question

P	I	C	O
Adult patients with mild–moderate ACC TG18 I / IIa CHOLE-POSSUM PS <25 Israeli Score 0–1	No preoperative antibiotic	Preoperative antibiotic Amoxi/clav 2000/200 mg IV every 8h	Postoperative infectious morbidity within 30 days

Non-inferiority: omitting preoperative antibiotics does not worsen outcomes

Study design

Prospective multicentre international

Randomization 1:1 via REDCap

Open label with blinded outcome/data assessment, if feasible

Non-inferiority study parallel group

30-day follow-up

The right patient

Key criterion: select low-risk cases with low local severity

Suspected acute calculous cholecystitis in the Emergency Department

TG18 grade I or IIa: non-severe local inflammation

Low surgical risk: POSSUM PS <25

Low CBDS risk: Israeli Score 0–1

The right pati

Key criterion: select lov

Severity grade	Criteria
Grade I Mild	Does not meet the criteria of "severe" or "moderate" acute cholecystitis Can also be defined as acute cholecystitis in a healthy patient with no organ dysfunction and mild inflammatory changes in the gallbladder
Grade II Moderate	Associated with any one of the following conditions: 1. Elevated white blood cell count (>18 000/mm^3) 2. Palpable tender mass in the right upper abdominal quadrant 3. Duration of complaints >72 h 4. Marked local inflammation (gangrenous cholecystitis, pericholecystic abscess, hepatic abscess, biliary peritonitis, and emphysematous cholecystitis)
Grade III Severe	Associated with of any of the following organs/systems dysfunction: 1. Cardiovascular dysfunction (hypotension requiring treatment with dopamine >5 μg/kg/min or any dose of norepinephrine) 2. Neurological dysfunction (decreased level of consciousness) 3. Respiratory dysfunction (PaO_2/FiO_2 ratio < 300) 4. Renal dysfunction (oliguria, creatinine > 2.0 mg/dL) 5. Hepatic dysfunction (PT-INR > 1.5) 6. Hematological dysfunction (platelet count < 100 000/mm^3)

Abbreviations: PaO_2/FiO_2, Ratio of partial pressure of arterial oxygen to fraction of inspired oxygen; PT-INR, prothrombin time-international normalized ratio.

The right pat

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Exclution criteria and drop-outs

Exclusion criteria
• Age <18 years • Known or suspected pregnancy • Clinical picture not compatible with mild–moderate ACC • Israeli score ≥2 POSSUM • Physiological Score ≥25 • Poorly controlled/decompensated diabetes mellitus: HbA1c ≥8.0% or acute metabolic decompensation • Clinically significant immunodeficiency • Transplant recipient • Ongoing immunosuppressive therapy • Clinically relevant chronic corticosteroid therapy • Antibiotics already administered for the current ACC episode before enrolment/randomization • Any other condition making the patient unsuitable according to investigator judgment

Drop-out
• Withdrawal of consent by the patient • Waiting time >72 hours from admission to surgery • Conversion to laparotomy or other bail-out

The two arms

Intervention
No-antibiotic arm

No antibiotic

Randomization
1:1

Control
Antibiotic arm

Amoxicillin/clavulanic acid
2000 mg / 200 mg IV
every 8 hours

Diluted in 100 mL NaCl 0.9%
Infusion over 30–40 min

Safety and rescue therapy

When to start rescue antibiotics

- Persistent fever >39°C for >48h
- Peritonitis or hemodynamic instability
- WBC >18,000/mm^3 or worsening laboratory findings
- Bacteremia
- Clinical deterioration according to physician assessment

How it is managed in the trial

- The patient is treated
- The event is recorded
- It remains relevant to the outcomes

Clinical safety always prevails over the protocol.

Study outcomes

PRIMARY OUTCOME

Postoperative infectious morbidity

within 30 days

focus: surgical site infection (SSI) and other postoperative infectious complications

Non-inferiority study

Secondary outcomes

Microbiology	bacteriobilia · bacteremia · positive cultures
Inflammation	WBC · CRP · PCT · bilirubin · creatinine
Surgical safety	non-infectious complications · Clavien-Dindo · conversion/bail-out
Clinical impact	length of stay · readmission · radiological/surgical reinterventions
Antibiotics	rescue therapy · adverse events · unplanned antibiotic use

Every clinically significant infection and every use of rescue antibiotics must be recorded.
If an infectious complication is confirmed, it contributes to the primary outcome according to protocol definitions.

Study numbers

Target sample size

2.884

Patients per arm

1.442

Recruitment

24 months

Study duration

Sep 2026 → Oct 2028

What we ask from centres

Volume	Minimum	Number of centres
about 40 patients in 2 years	≥20 potentially eligible patients	About 70 centres 30–40 Italian centres

Organization	Team	Data
Urgent ELC within 72 hours from admission	Local PI + delegates for recruitment and follow-up	REDCap standardized eCRF

Participation is designed to be multicentre, sustainable and traceable.

Why join as a centre

1	Clinical impact	Answer a daily question in emergency surgery
2	**Stewardship**	Reduce unnecessary antibiotics without compromising safety
3	**Network**	Single Ethics Committee approval and insurance covered by the Sponsor
4	Visibility	Participating centre in an international trial
5	Feasibility	Simple workflow: screening, randomization, 30-day follow-up

What is needed today: identify interested centres and a local contact person

Sponsor
Fondazione IRCCS Policlinico San Matteo
Pavia

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Disclaimer

The study presentation is provided for informational purposes only and is intended for interested centres and collaborators.

The protocol is currently under review and pending Ethics Committee approval. The study is not open to patient recruitment until all required regulatory and local approvals have been obtained.

The slides do not constitute clinical guidance and should not be used for patient management decisions.