

ER-GS combine meeting

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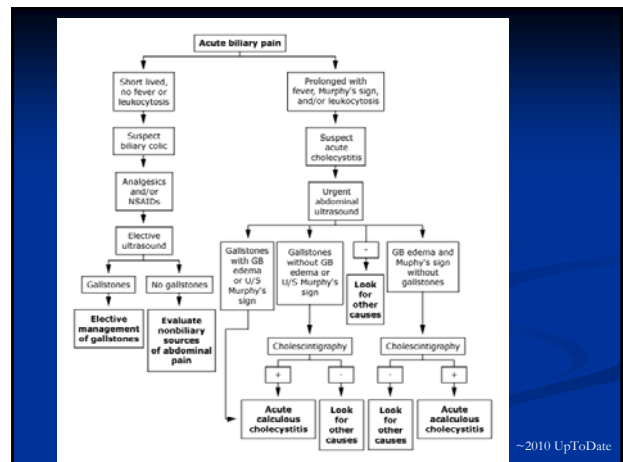
Biliary Colic (Symptomatic Cholelithiasis)

- RUQ pain after eating a fatty meal.
- often radiates to the back or to the right scapula , lasts between 30 minutes and several hours.
- Nausea may accompany with the pain
- Ultrasonography demonstrates gallstones, with or without gallbladder wall thickening or pericholecystic fluid.

~CURRENT Diagnosis & Treatment in Family Medicine
Ch31. Hepatobiliary Disorders

Acute cholecystitis

- a syndrome of **right upper quadrant pain**, **fever**, and **leukocytosis** associated with gallbladder inflammation
- Patients with acute cholecystitis typically complain of
 - abdominal pain, most commonly **RUQ** or **epigastrium**.
 - The pain may radiate to the right shoulder or back.
 - Associated complaints may include nausea, vomiting, and anorexia.



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Diagnosis of acute cholecystitis

- Does This Patient Have Acute Cholecystitis?
~ Trowbridge RL. et al. *JAMA*. 2003 Jan 1;289(1):80-6.
- **No** clinical or laboratory finding had a sufficiently high positive likelihood ratio (LR) or low negative LR to **rule in** or **rule out** the diagnosis of acute cholecystitis.
- Possible exceptions were the **Murphy sign** (positive LR, 2.8; 95% CI, 0.8-8.6) and **right upper quadrant tenderness** (negative LR, 0.4; 95% CI, 0.2-1.1), though the 95% CIs for both included 1.0.

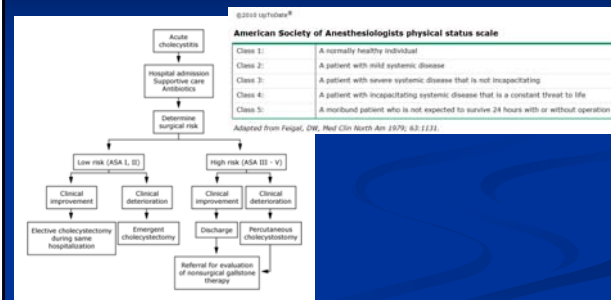
Finding	Studies		Summary LR (95% CI)†		Sensitivity (95% CI)	Specificity (95% CI)	
	No.	References	Positive	Negative			
Clinical							
Anorexia	2	41, 55	1.135	1.1-1.7	0.5-0.9	0.65 (0.57-0.73)	0.50 (0.49-0.51)
Emesis	4	41, 46, 53, 55	1370	1.5 (1.1-2.1)	0.6 (0.3-0.8)	0.71 (0.65-0.76)	0.53 (0.52-0.55)
Fever >38°C	8	40, 41, 44, 46, 50-53	1292	1.5 (1.0-2.3)	0.9 (0.8-1.0)	0.35 (0.31-0.38)	0.80 (0.76-0.82)
Guarding	2	41, 55	1170	1.2-2.8	0.5-1.0	0.45 (0.37-0.54)	0.70 (0.69-0.71)
Murphy sign	3	39, 46, 54	565	2.8 (0.8-8.6)	0.5 (0.2-1.0)	0.65 (0.58-0.71)	0.87 (0.85-0.89)
Nausea	2	46, 54	669	1.4-1.2	0.6-1.0	0.77 (0.69-0.83)	0.36 (0.34-0.38)
Rebound	4	40, 41, 46, 55	1130	1.0 (0.6-1.7)	1.0 (0.8-1.4)	0.30 (0.23-0.37)	0.68 (0.67-0.69)
Rectal tenderness	2	41, 55	1173	0.3-0.7	1.0-1.3	0.08 (0.04-0.14)	0.82 (0.81-0.83)
Rigidity	2	41, 55	1141	0.50-2.32	1.0-1.3	0.11 (0.06-0.18)	0.87 (0.86-0.87)
Right upper abdominal quadrant							
Mass	4	40, 45, 53, 54	406	0.8 (0.5-1.2)	1.0 (0.9-1.1)	0.21 (0.18-0.23)	0.80 (0.75-0.85)
Pain	5	40, 45, 46, 54, 55	949	1.5 (0.9-2.5)	0.7 (0.3-1.4)	0.81 (0.78-0.85)	0.67 (0.65-0.69)
Tenderness	4	40, 45, 54, 55	1001	1.6 (1.0-2.5)	0.4 (0.2-1.1)	0.77 (0.73-0.81)	0.54 (0.52-0.56)
Laboratory							
Alkaline phosphatase >120 U/L	4	42, 46, 49, 51	556	0.8 (0.4-1.6)	1.1 (0.5-2.0)	0.45 (0.41-0.49)	0.52 (0.47-0.57)
Elevated ALT or AST‡	5	42, 46, 49, 51, 53	592	1.0 (0.5-2.0)	1.0 (0.8-1.4)	0.38 (0.35-0.42)	0.62 (0.57-0.67)
Total bilirubin >2 mg/dL	6	40, 42, 43, 46, 49, 51	674	1.3 (0.7-2.3)	0.9 (0.7-1.2)	0.45 (0.41-0.49)	0.63 (0.59-0.66)
Total bilirubin, AST, or alkaline phosphatase	1	52	270				
Any 3 elevated							
Any 3 elevated				1.6 (1.0-2.8)	0.8 (0.6-0.9)	0.34 (0.30-0.36)	0.80 (0.69-0.88)
Leukocytosis	7	41, 44, 46, 50-53	1197	1.5 (1.2-1.9)	0.6 (0.5-1.8)	0.63 (0.60-0.67)	0.57 (0.54-0.59)
Leukocytosis and fever	2	44, 52	351				
Yes				1.6 (0.9-2.8)	0.9 (0.8-1.0)	0.24 (0.21-0.26)	0.85 (0.76-0.91)
No				0.5 (0.4-0.7)	1.6 (1.4-1.8)	0.30 (0.27-0.33)	0.44 (0.34-0.54)

Abbreviations: ALT, alanine aminotransferase; AST, aspartate aminotransferase; CI, confidence interval; LR, likelihood ratio.
*One study evaluated C-reactive protein, but was not included since C-reactive protein is not a part of the routine evaluation of patients with abdominal pain or suspected acute cholecystitis. †"Pain followed by emesis" was reported in 1 study (positive LR, 2.3 [95% CI, 0.1-10.0]; negative LR, 0.04 [95% CI, 0.04-0.8]).
‡Summary measures provided only for findings discussed by more than 2 studies.
§May not equal sum of Yes in Table 1 because not all studies applied all tests to all patients.
¶Greater than upper limit of normal (ALT, 40 U/L; AST, 40 U/L).
||Offices blood cell count <10,000/mm³.

Diagnosis of acute cholecystitis

- No single clinical finding or laboratory test carries sufficient weight to establish or exclude cholecystitis without further testing (eg, right upper quadrant ultrasound).
- Combinations of certain symptoms, signs, and laboratory results likely have more useful LRs, and presumably inform the diagnostic impressions of experienced clinicians.

Treatment of Acute Cholecystitis



~ 2010 UpToDate

Timing of Surgery

Early versus delayed laparoscopic cholecystectomy for biliary colic.
~ Gurusamy KS, et al, *Cochrane Database Syst Rev*. 2008 Oct 8;(4):CD007196.

- There was a statistically significant shorter operating time and hospital stay in the early group (< 24 hours of diagnosis of biliary colic) than the delayed group (mean waiting period of 4.2 months)
- early laparoscopic cholecystectomy decreases the morbidity during the waiting period for elective laparoscopic cholecystectomy, decreases the rate of conversion to open cholecystectomy, decreases operating time, and decreases hospital stay.

Timing of Surgery

Meta-analysis of randomized controlled trials on the safety and effectiveness of early versus delayed laparoscopic cholecystectomy for acute cholecystitis. ~ Gurusamy K et al, *Br J Surg*. 2010 Feb;97(2):141-50.

- There was no significant difference between the two groups in terms of bile duct injury or conversion to open cholecystectomy.
- The total hospital stay was shorter by 4 days for ELC (performed within 1 week of onset of symptoms)
- ELC during acute cholecystitis appears safe and shortens the total hospital stay.

Thanks for your attention !