

A 38-year-old woman comes to the hospital due to right upper quadrant pain associated with nausea and vomiting for the past 12 hours. She has had similar pain previously, usually after the ingestion of fatty foods, but past episodes have always resolved within 1-2 hours. Past medical history includes hypertriglyceridemia, for which she takes fenofibrate. The patient's temperature is 38.3 C (101 F), blood pressure is 130/70 mm Hg, pulse is 98/min, and respirations are 20/min. Her BMI is 34 kg/m². Examination shows right upper quadrant tenderness. Laboratory results are as follows:

Total bilirubin	0.8 mg/dL
Alkaline phosphatase	80 U/L
Aspartate aminotransferase (SGOT)	22 U/L
Alanine aminotransferase (SGPT)	24 U/L
Amylase	81 U/L

Abdominal ultrasound reveals gallstones, a thickened gallbladder wall with edema, and a normal common bile duct. In addition to the supportive care, which of the following is the most appropriate next step in management of this patient?

- ☐ A. Cholecystectomy within 72 hours
- ☐ B. CT scan of the abdomen
- ☐ C. Delayed cholecystectomy after 7 days
- ☐ D. Discontinue fenofibrate and reevaluate in 3 months
- ☐ E. Endoscopic retrograde cholangiopancreatography
- ☐ F. Hepatobiliary iminodiacetic acid (HIDA) scan

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- ☒ A. Cholecystectomy within 72 hours [74%]
- ☐ B. CT scan of the abdomen [2%]
- ☐ C. Delayed cholecystectomy after 7 days [12%]
- ☐ D. Discontinue fenofibrate and reevaluate in 3 months [4%]
- ☐ E. Endoscopic retrograde cholangiopancreatography [5%]
- ☐ F. Hepatobiliary iminodiacetic acid (HIDA) scan [4%]

Proceed to Next Item

Explanation:

User Id: [redacted]

Management of gallstones	
Gallstones without symptoms	• No treatment necessary in most patients

Explanation:

User Id: [REDACTED]

Management of gallstones	
Gallstones without symptoms	<ul style="list-style-type: none"> No treatment necessary in most patients
Gallstones with typical biliary colic symptoms	<ul style="list-style-type: none"> Elective laparoscopic cholecystectomy Possible ursodeoxycholic acid in poor surgical candidates
Complicated gallstone disease (acute cholecystitis, choledocholithiasis, gallstone pancreatitis)	<ul style="list-style-type: none"> Cholecystectomy within 72 hours

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Acute cholecystitis is characterized by inflammation and distension of the gallbladder due to **obstruction of the cystic duct** by a gallstone. Typical features include acute right upper quadrant pain and tenderness, fever, and leukocytosis. Palpation (or an ultrasound probe) under the costal margin at the midclavicular line may elicit acute tenderness, especially during inspiration (Murphy sign).

Symptoms often subside within a few days with volume resuscitation, antibiotics, and pain medications. However, early **cholecystectomy** (within 72 hours) reduces disease duration, duration of hospitalization, and mortality when compared to delayed cholecystectomy (>7 days after hospitalization) (**Choice C**). Laparoscopic cholecystectomy is the surgical procedure of choice in patients without contraindications. Early cholecystectomy is also advised for patients with other complications of gallstones, such as gallstone pancreatitis.

(**Choices B and F**) The hepatobiliary iminodiacetic acid (HIDA) scan uses a nuclear tracer that is excreted in the bile. Failure to visualize the tracer in the gallbladder suggests obstruction; therefore, this test can be used in the evaluation of cholecystitis when ultrasound findings are indeterminate. CT can also be used to evaluate the biliary tree but is less sensitive than ultrasound. This patient has evidence of acute cholecystitis on ultrasound, and additional imaging is not necessary.

(**Choice D**) Delayed, elective cholecystectomy is appropriate for patients with

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(**Choice D**) Delayed, elective cholecystectomy is appropriate for patients with uncomplicated biliary colic. However, even though fenofibrate can contribute to gallstone formation, this patient has acute cholecystitis, which requires timely removal of her gallbladder.

(**Choice E**) Endoscopic retrograde cholangiopancreatography (ERCP) uses fluoroscopy to visualize the biliary tree for diagnostic and therapeutic purposes. ERCP is indicated for a gallstone in the common biliary duct (CBD) causing CBD dilation. In such cases, sphincterotomy can facilitate passage of stones. This patient's normal alkaline phosphatase makes CBD obstruction unlikely (acute cholecystitis is usually due to cystic duct obstruction).

Educational objective:

Acute cholecystitis presents with right upper quadrant pain, fever, and leukocytosis. Patients with acute cholecystitis should be treated with laparoscopic cholecystectomy within 72 hours.

References:

1. [Surgical and nonsurgical management of gallstones.](#)