WARM UP!

A 27-year-old man is evaluated during a routine examination. He is asymptomatic. The patient is sexually active with men and has had multiple partners in the past year. He engages in both oral and anal sex, and he reports using condoms most of the time. He does not use illicit drugs. He is unsure about his vaccination status and has never been tested for HIV infection, syphilis, or infectious hepatitis. Medical history is unremarkable. He takes tenofovir disoproxil fumarate and emtricitabine as pre-exposure prophylaxis for HIV infection.

The physical examination, including vital signs, is normal.

Screening is arranged for HIV, syphilis, and hepatitis A, B, and C virus infections.

According to CDC guidance, which of the following additional screening tests is most appropriate?

- A Anal cytology
- B Nucleic acid amplification test for chlamydia and gonorrhea
- C Testicular cancer screening
- D No additional testing is indicated

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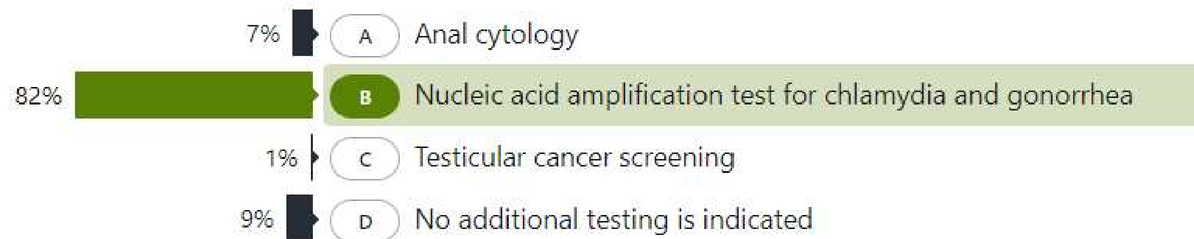

CC: Abd pain, nausea, vomiting

HPI: 63 yr old woman.
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PMH: T2DM, HTN, NASH cirrhosis, hypothyroidism

SurgHx: s/p cholecystectomy (2014)

SH: Former smoker. Denied current ETOH, tobacco, or drug use.

ALLERGIES: Shellfish (anaphylaxis)

MEDS:
- Glyburide
- Januvia
- Metformin
- HCTZ
- Metoprolol
- Synthroid
- Protonix

PHYSICAL EXAM:

Tmax: 38.9C, **BP:** 131/72, **HR:** 104, **RR:** 20, **SpO2:** 93% on RA

General: Middle aged woman retching and writhing in pain

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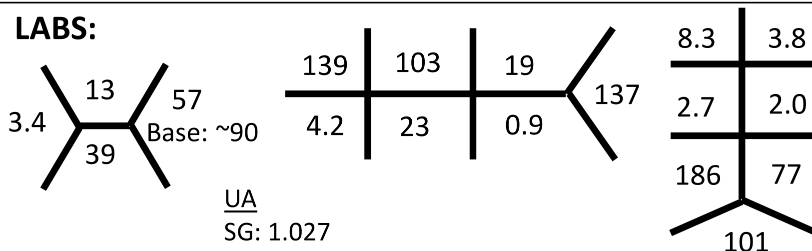

Diff: 77.3% PMN, presence of bands

Lactate: 2.3

Troponin: <0.01

INR: 1.4 (baseline)

UA
SG: 1.027
2+ protein
Nitrites: negative
2+ LE
44 WBC / HPF
49 Squamous cell / HPF
Many bacteria

Urine culture
Mixed uroflora

Blood cultures x2
E. coli

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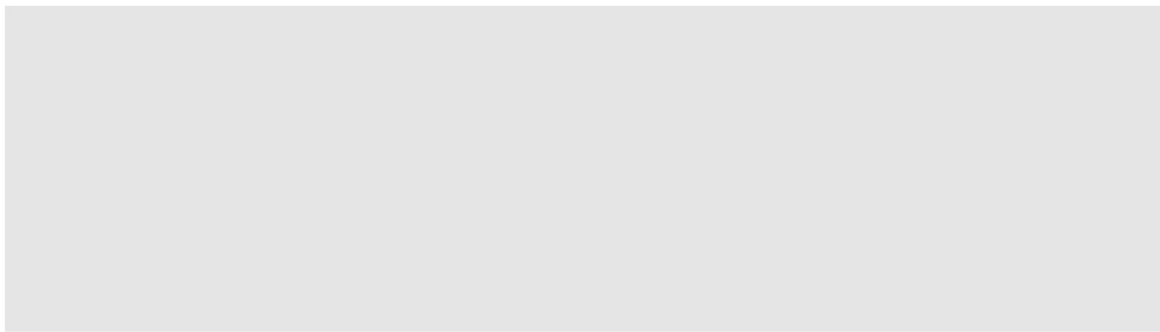
S/p cholecystectomy. Slight heterogeneity at the distal CBD. Choledocholithiasis cannot be r/o.

MRCP
Presence of a 1.6 x 0.9 cm stone in the distal CBD w/ mild proximal biliary dilatation

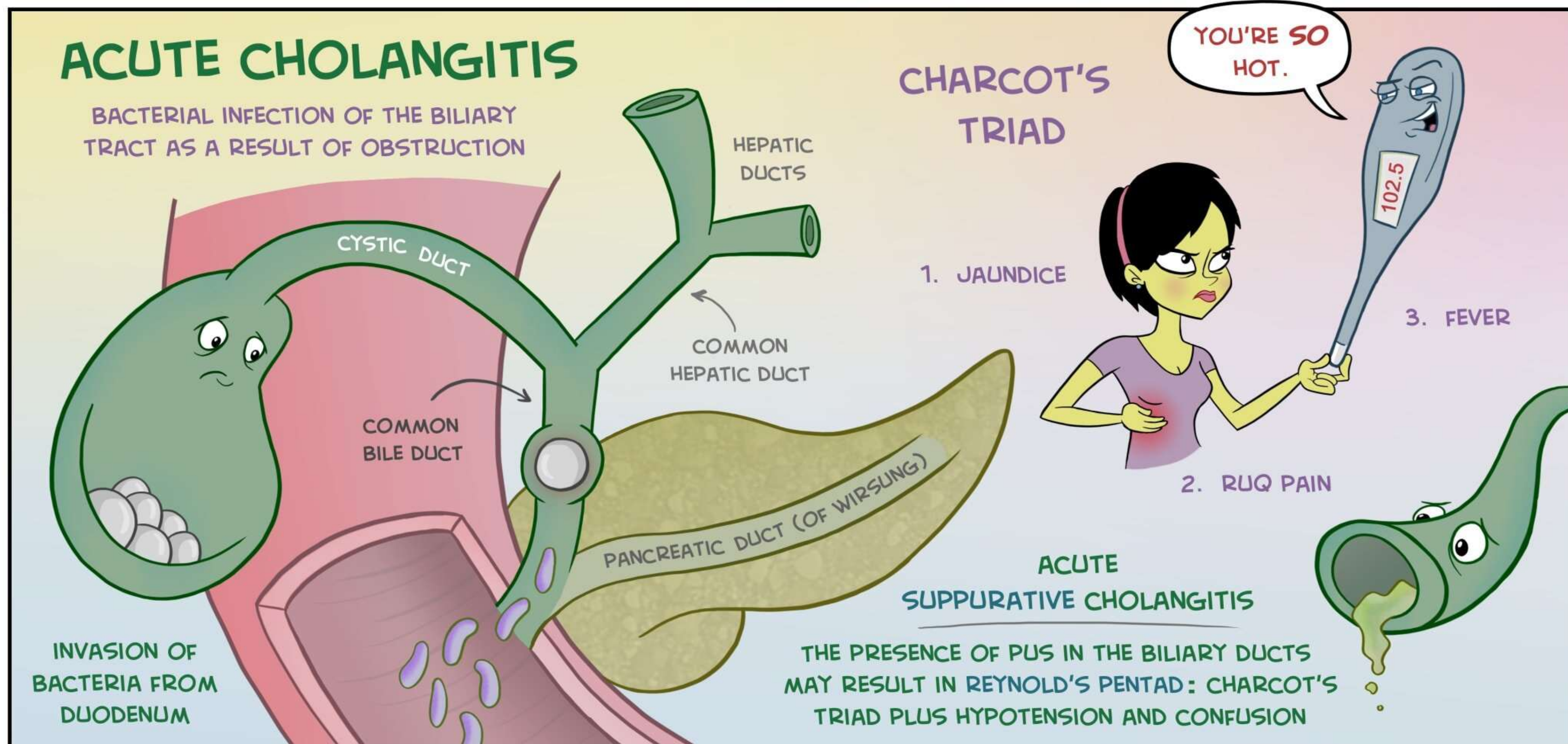
PROBLEM REPRESENTATION:

Elderly woman w/ T2DM, HTN, NASH cirrhosis, hypothyroidism, & hx cholecystectomy, presenting with fevers & acute right flank / RUQ pain, found to have sepsis from E coli bacteremia due to…

ACUTE CHOLANGITIS



CLINICAL MANIFESTATION



GENERAL

- Culprit organisms
  - Gram negative
    - E coli (25-50%)
    - Klebsiella (15-20%)
    - Enterobacter (5-10%)
  - Gram positive
    - Enterococci (10-20%)
  - Anaerobes

DIAGNOSIS

Tokyo Guidelines (TG18)
株式会社C2
Designed for iPad
★★★★★ 5.0 • 1 Rating
Free

Part A: Systemic Inflammation		
Fever and/or shaking chills >38°C/100.4°F	No	Yes
Laboratory data: evidence of inflammatory response WBC <4 or >10 x1,000/µL and/or CRP ≥1 mg/dL	No	Yes
Part B: Cholestasis		
Jaundice Total bilirubin ≥2 mg/dL	No	Yes
Laboratory data: abnormal liver enzymes ALP, γGTP, AST, ALT levels >1.5 x STD	No	Yes
Part C: Imaging		
Biliary dilatation	No	Yes
Evidence of the etiology on imaging Stricture, stone, stent, etc.	No	Yes

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Biliary dilatation	No	Yes
Evidence of the etiology on imaging Stricture, stone, stent, etc.	No	Yes

Back Home

TG18 / TG13 Diagnostic Criteria for Acute Cholangitis

A. Systemic Inflammation
- A-1. Fever and/or shaking chills
- A-2. Laboratory data: Evidence of inflammatory response

B. Cholestasis
- B-1. Jaundice
- B-2. Laboratory data: Abnormal liver function tests

C. Imaging
- C-1. Biliary dilatation
- C-2. Evidence of the etiology on imaging (stricture, stone, stent etc)

Suspected diagnosis:
One item in A + one item in either B or C

Definite diagnosis:
One item in A, one item in B and one item in C

Bookmark Font

DIAGNOSIS

Severity grading:

Grade III (dysfunction in ≥1 of the following):
Cardiovascular dysfunction: hypotension requiring dopamine ≥5 μg/kg per min or any dose of norepinephrine
Neurological dysfunction: disturbance of consciousness
Respiratory dysfunction: PaO_2/FiO_2 ratio <300
Renal dysfunction: oliguria or creatinine >2.0 mg/dL
Hepatic dysfunction: PT-INR >1.5
Hematological dysfunction: platelet count <100,000/mm^3
Grade II (≥2 of the following conditions):
Abnormal WBC count (>12,000/mm^3 or <4,000/mm^3)
High fever (≥39°C/102.2°F)
Age ≥75 years
Hyperbilirubinemia (total bilirubin ≥5 mg/dL)
Hypoalbuminemia (<0.7 x upper limit of normal)
Grade I
Does not meet the criteria of Grade III or Grade II acute cholangitis at initial diagnosis

TREATMENT

Grade	Acute cholangitis severity	Recommendations
I	Mild	Antibiotics and general supportive care; consider biliary drainage if no response to initial treatment
II	Moderate	Antibiotics and general supportive care; early endoscopic or percutaneous transhepatic biliary drainage is indicated
III	Severe	Initial treatment with antibiotics, urgent biliary drainage, appropriate respiratory/circulatory management

TREATMENT

- Supportive Care
  - Fluids, analgesia
- **Antibiotics**
  - No risk factors for resistance
    - Zosyn OR Cephalosporin + Flagyl OR Fluoroquinolone + Flagyl
  - Risk factors for resistance
    - Meropenem OR Imipenem + Cilastatin OR Zosyn OR Cefepime/ceftazidime + Flagyl
  - **DURATION: 4-5 days after source control**
- **Biliary Drainage**
- Address underlying cause eg cholecystectomy if due to gallstones

BILIARY DRAINGE

- Mild – moderate severity cholangitis → ERCP w/in 24-48hrs

- **Emergent (w/in 24 hrs) ERCP**
  - Severe cholangitis
  - Mild – moderate severity that does not respond to 24hrs of initial treatment

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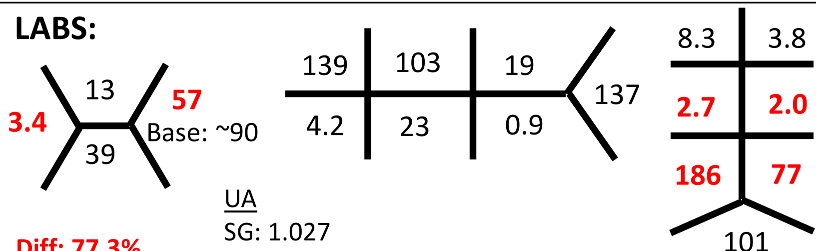

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DIAGNOSIS: ACUTE CHOLANGITIS

LEARNING POINTS:

- Diagnosis
  - Tokyo 2018 Guidelines can help with clinical suspicion and assessing severity
  - US, CT Abd/Pelv, and MRCP can be used to assist with diagnosis
- Treatment
  - Supportive care (fluids, analgesia)
  - Antibiotics
    - Consider risk of abx resistance
    - Cover gram neg (E Coli, Klebsiella), gram pos (enterococcus), and anaerobes
    - Con't for 4-5 days after source control
  - Urgent biliary drainage (w/in 24 hrs)
    - Mild-moderate that fails to respond to conservative mgmt for 24 hrs
    - Severe cholangitis