Management of Cholangitis (Initial Episode) in Adult Patients with Pancreatobiliary Tumor

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PATIENT PRESENTATION

Patient presentation suspicious of cholangitis:
- Abdominal pain (right upper quadrant)
- Fever (temperature > 38°C)
- Jaundice
- History of pancreatobiliary tumor
- History of previous biliary stent(s) or drain(s)

EMPIRIC THERAPY

START EMPIRIC IV ANTIBIOTICS:
- No penicillin allergy:
  - Piperacillin/tazobactam
- Penicillin allergy and no quinolone exposure within 90 days and no history of quinolone resistant pathogens in previous year:
  - Levofloxacin and vancomycin and metronidazole
- Penicillin allergy and quinolone exposure within 90 days or quinolone resistance in previous year:
  - Aztreonam and vancomycin and metronidazole

START EMPIRIC IV ANTIBIOTICS:
- No penicillin allergy or quinolone resistant pathogens in previous year:
  - Levofloxacin and metronidazole (if no quinolone exposure within 90 days) or Ceftriaxone and metronidazole or Ampicillin/sulbactam and levofloxacin
- Penicillin allergy and no quinolone exposure within 90 days and no history of quinolone resistant pathogens in previous year:
  - Levofloxacin and metronidazole
- Penicillin allergy and quinolone exposure within 90 days or quinolone resistance in previous year:
  - Aztreonam and vancomycin and metronidazole

Does patient exhibit criteria for ICU admission?

- Yes
- No

NPO = nothing by mouth

1 Abdominal pain alone (without the other signs/symptoms above) is not specific for the diagnosis of cholangitis
2 Criteria for ICU admission or dependent on clinician discretion
3 Consider meropenem if patient has any of the following:
   - Non-IgE-mediated allergy to alternative beta-lactam agents
   - Recent treatment (of at least 3 days duration) with cefepime or piperacillin/tazobactam within past 30 days
   - Infection with extended spectrum beta-lactamase (ESBL) organism or any history of ESBL in culture
4 IgE-mediated allergy to penicillin
5 If patient is admitted to the ICU, place STAT emergent GI consult

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ICU MANAGEMENT

EVALUATION

Order1 pertinent labs in addition to:
- CBC with differential
- Bilirubin (total), direct and indirect bilirubin
- Alkaline phosphatase
- C-reactive protein (CRP) and procalcitonin

Obtain if patient is able to tolerate:
- CT abdomen with contrast if not done within the past 48 hours
- Consider MRCP or MRI abdomen if patient has renal dysfunction
- Consider abdominal ultrasound only for suspicion of cholecystitis

FINDINGS

Cholangitis confirmed based on the following criteria:
- Abnormal WBC (< 4 or > 10 K/microliter) and
- Labs indicative of cholestasis (i.e., total bilirubin and/or alkaline phosphatase levels that are > institutional upper limits of normal) or
- Evidence on imaging (i.e., biliary dilatation, stricture or stone)

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Patient admitted to the ICU

MRCP = magnetic resonance cholangiopancreatography

1 Order labs if not already done within the past 24 hours
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ACUTE CARE FLOOR MANAGEMENT

EVALUATION

Patient admitted to the acute care floor

Order1 pertinent labs in addition to:
- CBC with differential
- Bilirubin (total), direct and indirect bilirubin
- Alkaline phosphatase
- C-reactive protein (CRP) and procalcitonin

Obtain:
- CT abdomen with contrast if not done within the past 48 hours
- Consider MRCP or MRI abdomen if patient has renal dysfunction
- Consider abdominal ultrasound only for suspicion of cholecystitis

FINDINGS

Cholangitis confirmed based on the following criteria:
- Abnormal WBC (< 4 or > 10 K/microliter) and
- Labs indicative of cholestasis (i.e., total bilirubin and/or alkaline phosphatase levels that are > institutional upper limits of normal) or
- Evidence on imaging (i.e., biliary dilatation, stricture or stone)

See Page 4

1 Order labs if not already done within the past 24 hours
2 Place routine GI consult

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TREATMENT

Consult Infectious Diseases for treatment recommendations

Yes

MDRO\(^2\) or Candida isolated bacteremia or liver abscess identified?

No

Adjust antibiotics based on organism(s) isolated from invasive biliary specimens

Patient improved?\(^3\)

Yes

Complete 5 days of antimicrobial therapy post drainage/obstruction relief

No

Reassess conditions daily until improved?\(^3\)

\(\text{If no improvement within } 48 \text{ hours from obstruction, consult Infectious Diseases for further recommendations}\)

FOLLOW-UP

- Ensure Gastroenterology follow-up scheduled for biliary stent exchange prior to discharge as clinically indicated
- Ensure Interventional Radiology follow-up is scheduled for biliary drain management prior to discharge as clinically indicated
- Infectious Disease follow-up is recommended for patients with MDRO pathogens, bacteremia, or liver abscess
- Primary team follow-up is essential and recommended

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1 If ERCP cultures desired - Providers must communicate directly with Gastroenterology on feasibility of collection. If Gastroenterology agrees, they will place culture order(s).

2 MDROs include:
   - Enterococcus resistant to vancomycin
   - *S. aureus* resistant to methicillin (oxacillin)
   - *S. pneumoniae* resistant to penicillin and streptococci resistant to ceftriaxone
   - *Stenotrophomonas maltophilia*
   - Any extended spectrum beta-lactamase (ESBL)-producing gram negative bacilli
   - Any carbapenem resistant gram negative bacilli
   - All other gram negative bacilli that are resistant to usual recommended first-line agents

3 Improved conditions include:
   - Clinical improvement (resolution of fever, hemodynamically stable, improving and/or normalized WBC)
   - Drainage/obstruction relief obtained

ERCP = endoscopic retrograde cholangiopancreatography

MDRO = multi-drug resistant organism

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\(\text{MDRO}\)

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SUGGESTED READINGS


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DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Cholangitis Management Workgroup at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

- Antimicrobial Stewardship Team
  - Roy A. Borchardt, PA-C (Infectious Diseases)
  - Emmanuel Coronel, MD (Gastroenterology Hepatology and Nutrition)
  - M. Susan Gaeta, MD (Emergency Medicine)
  - Wendy Garcia, BS
  - Marina George, MD (General Internal Medicine)
  - Bruno P. Granwehr, MD (Infectious Diseases)
  - Josiah Halm, MD (General Internal Medicine)
  - Milind Javle, MD (GI Medical Oncology)
  - Thoa Kazantsev, MSN, RN, OCN
  - Bruno C. Odisio, MD (Interventional Radiology)

'T Development Leads
' Clinical Effectiveness Development Team