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

Disclaimer: *This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. Local microbiology and susceptibility/resistance patterns should be taken into consideration when selecting antibiotics. This algorithm should not be used to treat pregnant women.*

PATIENT PRESENTATION

- Patient presentation suspicious for cholangitis:
  - Abdominal pain (right upper quadrant)
  - Fever (temperature > 38°C)
  - Jaundice
  - History of pancreatobiliary tumor
  - History of previous biliary stent(s) or drain(s)
- Discuss Goal Concordant Care (GCC) with patient or if clinically indicated, with Patient Representative[1]

- Make patient NPO
- Obtain blood and relevant cultures **(culturing of preexisting biliary drains is not recommended due to colonization)**

Patient admitted to the ICU?

EMPIRIC THERAPY FOR INITIAL EPISODE

Yes

Start empiric IV antibiotics[2,3]:
- No penicillin allergy:
  - Piperacillin-tazobactam
- Penicillin allergy[4] **and** no quinolone exposure within 90 days **and** no history of quinolone resistant pathogens in previous year:
  - Levofloxacin plus vancomycin plus metronidazole
- Penicillin allergy[4] **and** quinolone exposure within 90 days **or** quinolone resistance in previous year:
  - Aztreonam plus vancomycin plus metronidazole

- Consult[5] Gastroenterology
  - Additionally, consult Interventional Radiology (IR) if external biliary drains are present
- Consult Infectious Diseases

See Page 2

No

Start empiric IV antibiotics[3]:
- No penicillin allergy **or** quinolone resistant pathogens in previous year:
  - Levofloxacin plus metronidazole (if no quinolone exposure within 90 days) **or**
  - Ceftriaxone plus metronidazole
- Penicillin allergy[4] **and** no quinolone exposure within 90 days **and** no history of quinolone resistant pathogens in previous year:
  - Levofloxacin plus metronidazole
- Penicillin allergy[4] **and** quinolone exposure within 90 days **or** quinolone resistance in previous year:
  - Aztreonam plus vancomycin plus metronidazole

See Page 3

NPO = nothing by mouth

[1] GCC should be initiated by the Primary Oncologist. If Primary Oncologist is unavailable, Primary Team/ Attending Physician to initiate GCC discussion and notify Primary Oncologist. Patients, or if clinically indicated, the Patient Representative should be informed of therapeutic and/or palliative options. GCC discussion should be consistent, timely, and re-evaluated as clinically indicated. The Advance Care Planning (ACP) note should be used to document GCC discussion. Refer to GCC home page (for internal use only).

[2] Refer to the institutional renal dosing guide (internal only) or tertiary dosing references (*e.g.,* Lexicomp) for dosing recommendations

[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
- Infection with organism only susceptible to carbapenem

[4] IgE-mediated allergy (anaphylaxis/hives) or serious non-IgE mediated drug reactions such as Stevens-Johnson syndrome, toxic epidermal necrolysis, and drug reaction with eosinophilia and systemic symptoms (DRESS)

[5] If patient is admitted to the ICU, place STAT emergent GI consult

Department of Clinical Effectiveness V3
Approved by the Executive Committee of the Medical Staff on 05/16/2023

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ICU MANAGEMENT

EVALUATION

Patient admitted to the ICU →

Order[1] pertinent labs in addition to:
- CBC with differential
- Bilirubin (total), direct and indirect bilirubin
- Alkaline phosphatase

→

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 primarily for suspicion of cholecystitis
  - Refer to Acute Cholecystitis Management algorithm, if indicated

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

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 →

Order[1] pertinent labs in addition to:
- CBC with differential
- Bilirubin (total), direct and indirect bilirubin
- Alkaline phosphatase

→

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 primarily for suspicion of cholecystitis
  - Refer to Acute Cholecystitis Management algorithm, if indicated

→

Consult[2] Gastroenterology
- Additionally, consult IR if external biliary drains are present

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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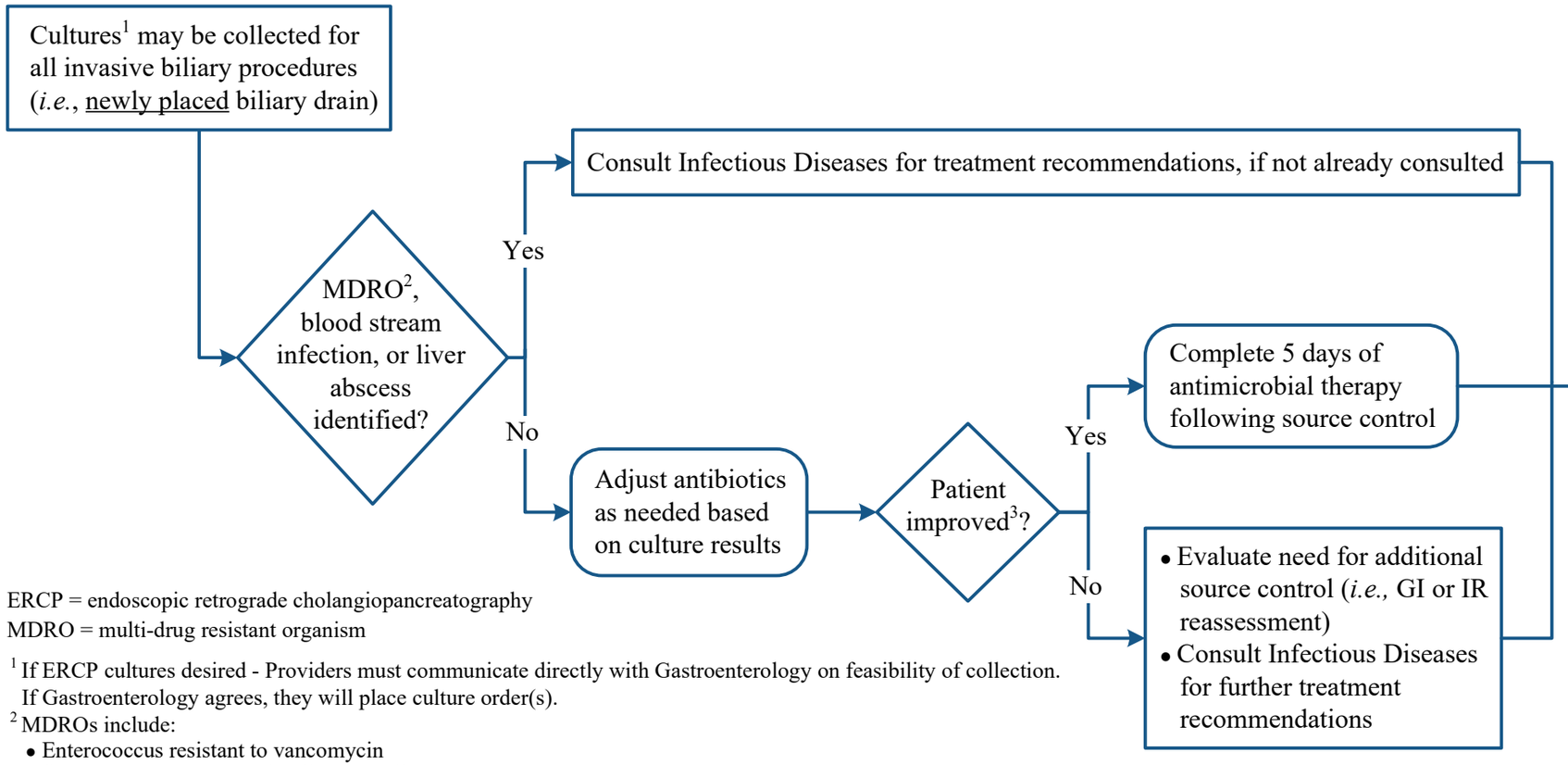
TREATMENT



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 Diseases follow-up is recommended for patients with MDROs, blood stream infections, or liver abscesses
- Primary team follow-up is essential and recommended

ERCP = endoscopic retrograde cholangiopancreatography
MDRO = multi-drug resistant organism

[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 for at least 48 hours)
- Drainage/obstruction relief obtained

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SUGGESTED READINGS

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