Choledocholithiasis Clinical Practice Guideline

MONROE CARELL JR. Children's Hospital at Vanderbilt

Patient presents with biliary pain (see Rome IV criteria listed below) or history concerning for biliary disease (jaundice, pruritus, acholic stools).

Rome IV Criteria: Pain located in the right upper quadrant or epigastrium with the following:

1. Builds up to steady level and lasts longer than 30 minutes.
2. Severe enough to interrupt daily activities or lead to an emergency department visit
3. Not significantly (<20%) related to bowel movements
4. Not significantly (<20%) relieved by postural change or acid suppression
5. Occurring at different intervals.

Supportive criteria:
Pain can be associated with:

1. Nausea and vomiting
2. Radiation to the back and/or right infra subscapular region
3. Waking from sleep

Obtain:

- BMP
- Hepatic Function Panel
- CBC w/differential
- Lipase
- GGT
- RUQ Ultrasound

Pediatric DUCT criteria[1]

- ❑ Dilated common bile duct > 6 mm
- ❑ Ultrasound with visualized CBD stone
- ❑ Total bilirubin of ≥ 1.8 mg/dL

3 criteria: Very high risk
2 criteria: High risk
1 criteria: Intermediate Risk
0 criteria: Low risk

Elevated Lipase > 3x ULN

Pancreatitis –
- Refer to Pancreatitis CPG
- ERCP is not recommended
- Same admission cholecystectomy is recommended for gallstone pancreatitis

≥ 2 criteria

Very High/High Risk

- Consult Pediatric Surgery for evaluation of IOC with possible transcystic common duct exploration and CCY -> **admit Pediatric Surgery**

1 criteria

Intermediate Risk

- Consult Pediatric Surgery for evaluation of IOC with possible transcystic duct exploration and CCY-> **admit Pediatric Surgery**
- If persistent diagnostic uncertainty, can consider MRCP vs EUS at the discretion of the surgery service.

0 criteria

Low Risk

- Management deferred to Pediatric ED.
- If imaging is reassuring, consider alternative causes of abdominal pain or cholestasis/hepatitis. If patient meets criteria for discharge, consider outpatient Peds GI referral.
- If suspicion for biliary pain is high or there are findings suggestive of symptomatic cholelithiasis, and patient meets criteria for discharge, outpatient Pediatric Surgery referral.

Exclusion Criteria

- Abnormalities in biliary anatomy (cyst, BA)
- Previous liver transplantation
- Cystic Fibrosis
- Hemolytic Disease

Abbreviations: CCY = cholecystectomy, MRCP = magnetic resonance cholangiopancreatography, ERCP = Endoscopic retrograde cholangiopancreatography, IOC = intraoperative cholangiogram, ED = emergency department.

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Additional Considerations

Antibiotics

- Prophylactic antibiotics are not recommended unless there is concern for cholecystitis, ascending cholangitis or sepsis as evidenced by fever, elevated WBC, tachycardia and hypotension.
- Antibiotics may be administered at the discretion of the treating provider
- If concern for sepsis or blood stream infection, obtain blood cultures prior to initiating antibiotics

Imaging

- Ultrasound is the initial image of choice, but it may not provide adequate images for patients with large or gassy abdomens. Ultrasound is highly specific, but poorly sensitive.
- MRCP is the preferred imaging method if there are bile duct abnormalities seen on ultrasound without evidence of obstructive stone or if there remains diagnostic uncertainty.
- EUS can be performed at discretion of the adult gastroenterology team.

Timing

- CCY and intraoperative cholangiogram (IOC) with or without transcystic common bile duct exploration (single-stage approach) can be utilized at the discretion of the surgical team.
- ERCP can be performed prior to or after CCY.

Pain Management

- Pain score 0-3- warm compresses, oral acetaminophen
- Pain score 4-7- IV NSAIDS (Ketorolac) if normal renal function and no plans for surgery, and/or oral or IV opioids if unresponsive to NSAIDS (morphine preferred)
- Pain score 8-10- IV opioids (morphine preferred), consider laxative therapy.

Management Following ERCP

- Clear liquid diet on following procedure. Following day may start soft diet and advance to normal diet as tolerated.
- If increasing abdominal pain, assess ongoing obstruction, post-ERCP pancreatitis, or bleeding/perforation with laboratory evaluation and plain films.
- In most cases, patient may be discharged following the procedure. If CCY is planned inpatient, patient will transfer to Pediatric Surgery service.

Risk Factors for Choledocholithiasis in Pediatrics

- Obesity
- Female
- Family history of cholelithiasis
- Abnormalities in biliary anatomy
- Cystic Fibrosis
- Hemolytic Disease

References

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