**Standard Operating Procedure**

# Management of Common Bile Duct Stones (Choledocholithiasis)

## 1. PURPOSE

To provide a standardized, safe, and evidence-based protocol for the diagnosis and management of patients with suspected or confirmed Common Bile Duct (CBD) stones to:

- Ensure early diagnosis
- Prevent complications (cholangitis, pancreatitis, biliary sepsis)
- Provide timely intervention
- Standardize treatment pathway
- Improve patient safety and outcomes

## 2. SCOPE

This SOP applies to: general surgeons, medical officers, surgical residents, endoscopists, nurses and radiographers

## 3. DEFINITIONS

CBD stone (Choledocholithiasis): Presence of stones within the common bile duct causing obstruction.

Acute cholangitis: Bacterial infection of biliary tree secondary to obstruction.

Charcot triad: Fever, jaundice, RUQ pain

Reynolds pentad: Charcot triad plus: Hypotension, altered mental status

## 4. RESPONSIBILITIES

**Consultant Surgeon:** Confirm diagnosis, decide treatment plan, perform surgery if required and supervise patient care

**Medical Officer/Resident:** Initial assessment, order investigations, daily monitoring, documentation

**Nursing staff:** Vital monitoring, medication administration, fluid chart, early complication detection

**Radiology department:** Ultrasound, MRCP reporting, CT scan if needed

**Laboratory:** Urgent blood tests, culture reports

# 5. CLINICAL ASSESSMENT

**History:** Symptoms: RUQ pain, epigastric pain, fever, jaundice, vomiting, dark urine, pale stool

Risk factors: Gallstones, previous biliary surgery, elderly, diabetes mellitus

**Physical Examination:**

General: Fever, jaundice, sepsis signs

Abdomen: RUQ tenderness, Murphy sign, guarding (complications)

Sepsis screening: BP, HR, RR, mental status, urine output

# 6. INVESTIGATIONS

Laboratory: CBC, CRP, LFT, RFT, serum electrolytes, PT/INR, blood sugar, serum amylase/lipase, blood culture if fever +

Ultrasound abdomen - CBD diameter, stones, gallstones, intrahepatic dilation

CT abdomen

# 7. INITIAL MANAGEMENT

## Emergency management:

Stabilization: Oxygen if needed, IV access, blood sampling, IV fluids, analgesic

## Antibiotic protocol

Indications: Cholangitis, fever, sepsis, leukocytosis

Empirical regimen:

Mild–moderate infection: Ceftriaxone 1–2g IV daily PLUS Metronidazole 500mg IV 8 hourly

Severe infection: Piperacillin–Tazobactam

Alternative: Ciprofloxacin + Metronidazole

Modify based on culture.

## Surgical management:

Indications:

- Failed ERCP
- No ERCP availability
- Large stones
- Multiple stones
- Altered anatomy

Open surgery:

- CBD exploration
- T tube drainage if needed

# 8. MONITORING

## Clinical monitoring:

Monitor: Vital signs 4 hourly, temperature chart, pain score, urine output

## Laboratory monitoring: CBC, LFT, CRP

Frequency: Every 24–48 hrs depending severity.

- Severe abdominal pain
- Vomiting
- Fever

# 9. DISCHARGE CRITERIA

Patient may be discharged when:

- Hemodynamically stable
- Afebrile
- Pain controlled
- Eating orally
- LFT improving
- No untreated obstruction
- Follow-up arranged

# 10. FOLLOW UP PROTOCOL

First visit: 1–2 weeks

Check: Clinical symptoms, wound, LFT

After cholecystectomy: Routine surgical follow-up.

# 12. DOCUMENTATION REQUIREMENTS

Admission notes: History, examination, diagnosis, plan

Progress notes: daily condition, investigations, treatment changes

Operative note: Procedure, findings, technique, complications, drains

Discharge summary: Final diagnosis, procedures, investigations, medication list, follow up date, red flag symptoms

# 13. REFERENCES


- Tokyo Guidelines 2018
- ASGE Guidelines
- World Society of Emergency Surgery Guidelines
- Schwartz Principles of Surgery
- Sabiston Textbook of Surgery