STANDARD TREATMENT WORKFLOW (STW)

Gall Stone Disease

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Singh R, et al.: Gall Stone Disease

**Standard Treatment Workflow (STW)**

**GALL STONE DISEASE**

**ICD-10-K80.20**

**SYMPTOMS**
1. Pain
   - Biliary colic: slowly progressive, constant pain in right upper quadrant or mid-epigastrum, exacerbating crescendo pattern
   - Acute cholecystitis: prolonged pain more than biliary colic (≥ 24 hrs) associated with fever
2. Nausea or vomiting
3. Dyspepsia
4. Flatulence
5. Food intolerance
6. Jaundice - G1 stone impacted at the neck or hamman’s pouch that compresses CBD
7. Acute cholecystitis - pain, fever, jaundice

**PRESENTATION OF A PATIENT WITH GSD**

**SYMPTOMATIC**
1. Acute cholecystitis
2. Empyema
3. Perforation
4. Calculous cholecystitis (critically ill patients – unexplained fever, lack of right upper quadrant tenderness, leukocytosis)
5. Gastrointestinal perforation
6. Biliary obstruction
7. Acute pancreatitis

**ASYMPTOMATIC**

**COMPLICATED**

**INVESTIGATIONS**

**HEMATOLOGICAL**
- WBC, RBC, Hb, platelet count
- Serum electrolytes
- Urea, creatinine
- Lipid profile

**IMMUNOLOGICAL**
- Anti-microsomal antibodies
- Antimitochondrial antibodies

**BIOCHEMICAL**
- Aminotransferases
- Lipase
- Amylase
- Bilirubin
- Lipids

**IMAGING**
- Abdominal ultrasound
- CT scan of abdomen
- MRI scan of abdomen

**MANAGEMENT**

**ASYMPTOMATIC**

**Laparoscopic Cholecystectomy**

**Absolute Indications:**
- Suspicious malignancy
- GB polyp > 1 cm
- Porcelain GB
- Chronic hemolytic anemia
- Transplant patient especially (pancreatectomized)
- Calculus > 5 mm
- Multiple small stones
- Carcinoid gall stones

**Relative Indications:**
- Calculus > 2 cm
- Calculus > 3 mm, patent cystic duct
- Diabetes mellitus
- Non-functioning GB

**SYMPTOMATIC**

**Acute Cholecystitis**
- Conservative management
- Pain relief
- IV fluids
- Analgesics
- Antacids

**Laparoscopic Cholecystectomy**
- Mid/mild pancreatitis
- Lap cholecystectomy after 4-6 weeks of resolution of pancreatitis
- Unstable patient
- Lap cholecystectomy
- Cholecystojejunostomy
- Lap cholecystectomy if required
- Cholecystectomy

**STABLE**

**Early LC – within 24-72 hours (if expertise available)**
- Delayed LC – after 6 weeks by experienced lap surgeon
- Cholecystectomy followed by laparoscopic cholecystectomy by experienced laparoscopic surgeon after 6 weeks

**ROUTINE RESUSCITATION**
- IV fluids
- Antibiotics
- Blood transfusion
- Endoscopy
- ERCP

**POST LAP CHOLECYSTECTOMY COMPLICATIONS**

**FOLLOW UP**
- Suture removal after 1 week
- HPE: Histopathological examination
- CT scan of abdomen
- USG: Gall bladder ultrasound

**CONVERT EARLY IN CASE OF DOUBT IN LAP CHOLECYSTECTOMY**

**REFER PATIENT EARLY IN CASE OF ANY DOUBT IN POST OPERATIVE**

**ABBRVIATIONS**
- CBD: Common bile ducts
- G1: Gall stone disease
- HPE: Histopathological examination
- MRC: Magnetic resonance cholangiopancreatography

**KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES**

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