**Background**

- Clinical manifestations of choledocholithiasis include biliary colic, obstructive jaundice, pancreatitis, and acute cholangitis
- Secondary common bile duct (CBD) stones are common when the gallbladder is intact or after recent cholecystectomy (CCY) whereas recurrent stones develop >3 years after surgery
- Patients with retained CBD stones after CCY may be asymptomatic for years and there is limited data on their pattern of presentation
- Despite known predisposing conditions and risk factors for recurrent biliary disease, the role of intraoperative cholangiography (IOC) during CCY remains controversial

**Aims**

- To compare incidence and pattern of presentation of symptomatic choledocholithiasis in patients with and without prior CCY
- To evaluate characteristics of and risk factors for recurrent biliary disease in post-cholecystectomy patients

**Methods**

- Retrospective chart review of patients with choledocholithiasis presenting with biliary colic, acute pancreatitis, or acute cholangitis at a secondary and tertiary care center between January 2014 – December 2016
- The following patient data was collected: demographics, history, laboratory data, imaging, and endoscopic retrograde cholangiopancreatography (ERCP) results

**Results**

**Figure 2. Comparing clinical presentations of choledocholithiasis**

<table>
<thead>
<tr>
<th>Patients</th>
<th>Sex</th>
<th>Race</th>
<th>Clinical Conditions</th>
<th>Biliary Colic</th>
<th>Biliary Pancreatitis</th>
<th>Acute Cholangitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=358</td>
<td>Male</td>
<td>White</td>
<td>Basal Weight (kg/m²)</td>
<td>47.4% (95)</td>
<td>47.4% (95)</td>
<td>47.4% (95)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Black</td>
<td></td>
<td>47.4% (95)</td>
<td>47.4% (95)</td>
<td>47.4% (95)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td></td>
<td>47.4% (95)</td>
<td>47.4% (95)</td>
<td>47.4% (95)</td>
</tr>
</tbody>
</table>

**Figure 3. Demographic and clinical case data**

- 27.9% (100/358) of patients who presented with symptomatic choledocholithiasis had a prior cholecystectomy
- There was a disproportional, statistically significant presentation of acute cholangitis in post-cholecystectomy patients
  - Acute Cholangitis p= 0.001
  - Biliary Colic p= 0.008
  - Biliary Pancreatitis p= 0.078

**Figure 4. Comparing incidence and pattern of presentation in definite cases with or without perioperative ERCP or IOC during CCY**

- 69.7% (23/33) of patients with symptomatic choledocholithiasis did not have peroperative bile duct evaluation with prior CCY
- Although the incidence of presentation within 3 years was 32.6% higher in patients without IOC/ERCP during cholecystectomy, it was not statistically significant (p=0.0538)
- 5 of 19 patients without perioperative ERCP/IOC presented with acute cholangitis within 3 years of CCY

**Conclusions**

- Recurrent biliary obstruction due to post-CCY choledocholithiasis is not uncommon
- The disproportionate prevalence of acute cholangitis in post-CCY patients is multifactorial
- Limitations include: data collection capturing only patients with complications, lack of confirmed procedure dates and perioperative ductal evaluation in all patients, and skewed pattern of presentation given tertiary referral center
- Given the frequency of gallstone-related disease recurrence within 3 years after CCY, the absence of significant risk factors, and the lack of definitive cholangitis on laboratory data and imaging, the role of intraoperative cholangiography should be re-evaluated in future studies
- Consider a prospective study on recurrent biliary disease post-CCY to determine a cost-effective analysis and risk-benefit ratio of routine IOC

**References**