Retrospective Study Assessing Rate of False Positive Endoscopic Retrograde Cholangiopancreatography Performed for Choledocholithiasis and Associated Complications

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Background

- Choledocholithiasis (CDL) refers to the presence of gallstones within the common bile duct (CBD).
- CDL is diagnosed and treated by endoscopic retrograde cholangiopancreatography (ERCP).
- ERCP is an invasive procedure that cannulates and retrieves gallstones in the CBD.
- 5-10% of patients who undergo ERCP develop post-ERCP pancreatitis.
- With minimal risks, EUS can be used to pre-screen patients for CDL.
- Pre-screening may decrease unnecessary ERCPs and thus decrease post-ERCP pancreatitis.

Problem Statement

A retrospective study has yet to be performed at LVHN to determine the rate of false positive ERCPs and their associated complications and thus no data exists to analyze if additional pre-screening prior to an ERCP would be beneficial in patients suspected of CDL.

Methods

- **Inclusion Criteria:**
  - Age > 18
  - Negative ERCP for CDL
- **Exclusion Criteria:**
  - ERCP performed not for CDL
  - Positive ERCP for CDL
- **Demographics**
- **Pre-ERCP labs/imaging**
- **CDL risk based on Table 1**
- **Determine if post-ERCP pancreatitis developed**
  - Record lipase level, symptoms and imaging of post-ERCP pancreatitis

Results

- **Figure 1: Study Flowchart of Chart Review**
- **Figure 2: Incidence of Post-ERCP Pancreatitis**
- **Figure 3: Number of Patients in Each CDL Risk Category**

Table 1: Risk Criteria Classification

<table>
<thead>
<tr>
<th>CBD Dilated&gt;6 mm</th>
<th>Total Bilirubin&gt;1.5 mg/dl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>High</td>
</tr>
<tr>
<td>Negative</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Positive</td>
<td>Negative</td>
</tr>
</tbody>
</table>

Table 2: Sub-Analysis of Patients Who Developed Post-ERCP Pancreatitis

<table>
<thead>
<tr>
<th>Patient Age</th>
<th>CDL Risk</th>
<th>CBD Dilatation on US</th>
<th>Imaging</th>
<th>Lipase Level (IU)</th>
<th>Eradicogenic Pain</th>
<th>Nausea</th>
<th>Vomiting</th>
<th>Imaging Confirming Pancreatitis</th>
<th>Post-ERCP Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>Low</td>
<td>No</td>
<td>MRCP</td>
<td>1071</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Not Performed</td>
<td>Yes</td>
</tr>
<tr>
<td>27</td>
<td>Intermediate</td>
<td>Yes</td>
<td>IOC</td>
<td>5911</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Not Performed</td>
<td>No</td>
</tr>
<tr>
<td>30</td>
<td>Low</td>
<td>No</td>
<td>IOC</td>
<td>22746</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Not Performed</td>
<td>No</td>
</tr>
</tbody>
</table>

Conclusions

- **Pre-screening with EUS for patients with low and intermediate CDL risk would provide cost-effective benefit by avoiding unnecessary ERCPs that may cause costly complications.**
- **Why EUS?**
  - 1. High sensitivity (93-97%) & specificity (89-94%)
  - 2. Ability to be performed immediately prior to ERCP, limiting time for gallstone to pass between screening and ERCP

- More data needed to determine if pre-screening would be beneficial for patients at high risk of CDL.

REFERENCES