Analysis of post-cholecystectomy bile duct injuries

Bile duct injuries are considered to be the most significant complication of cholecystectomy. Earlier studies have identified dangerous anatomical anomalies and altered local patho-anatomy as the chief causative factors for bile duct injuries. We present an analysis of the sites of injuries identified in 22 patients with post-cholecystectomy bile duct injuries managed in our unit during 1991-98. All the injuries had occurred after open cholecystectomy.

All patients with post-cholecystectomy biliary obstruction were subjected to liver profile testing, ultrasonography of the abdomen, HIDA scan and diagnostic ERCP wherever feasible. In addition, we attempted to find out the possible sites of injury through communication with the primary surgeon. During surgery at our institute, on-table findings were noted with respect to the site of bile leak, site of abrupt narrowing of the bile duct, presence of ligation and/or anatomical distortion.

In 7 patients, the Hartmann's pouch had contained a large calculus, and was dilated, inflamed and adherent to the common bile duct (CBD) during cholecystectomy. Some of these could represent missed cases of Types I or II Mirizzi's syndrome. All these patients had mid-CBD or low common hepatic duct (CHD) stricture or subsequent exploration.

Eight patients had high stricture at the level of the right hepatic duct or the confluence. In these patients, the surgeon had encountered no difficulty in dealing with the Hartmann's pouch, but in 5 of them dissection of the supra-medial surface of the neck and body of the gall bladder was difficult.

In two patients, there was acute intraoperative bleeding in the Calot's triangle during cholecystectomy after the surgeon had clamped, cut and ligated the cystic artery. These patients had low CHD stricture. This was attributed to a ligation/under-running done to arrest bleeding from a vascular anomaly, i.e., an aberrant right hepatic artery or additional cystic artery.

The remaining 5 patients had mid-low CBD stricture. Communication was possible with the primary surgeon in only one of these patients; the surgery was uneventful but for a sessile gall bladder. ERCP was attempted in one of these patients, but no CBD was visualized and a low CBD stricture was suggested. In one case, a ligature was identified over the lower CBD.

In our opinion, these injuries were caused due to anomalies of the cystic duct.

Mooa et al analyzed the surgical errors that led to bile duct injuries. Taniguchi has introduced a safety zone for laparoscopic cholecystectomy. We have identified the four most vulnerable sites for bile duct injury during cholecystectomy as:

1. Site of adhesion of the Hartmann's pouch to the CBD
2. Site of adhesion of inflamed gall bladder to the right hepatic/common hepatic duct
3. Site of an anomalous vessel, and
4. Junction of the cystic duct and CBD.

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References

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Need for antibiotics before sclerotherapy in cirrhosis with acute variceal bleeding

In the last one year, 3 patients (aged 45-50 years) with decompensated cirrhosis and features of septicemia were referred to us from various private nursing homes. All these patients had presented with variceal bleeding, which had been successfully controlled within 1-2 h by endoscopic sclerotherapy (EST). Neither antibiotic nor any adjuvant drug like somatostatin was used before the EST in any of these patients. The features of septicemia had developed within 12-24 h of the control of variceal bleed. None of the patients had developed any local complications after sclerotherapy.

No focus of infection was evident in two patients; one patient had bilateral pneumonia. Cultures of blood, urine, ascitic fluid and respiratory secretions were negative in all. All the patients were managed with a combination of antibiotics (3rd generation cephalosporins + amikacin + metronidazole) and supportive measures. One patient improved within 48 h while two patients continued to deteriorate, developed multiorgan failure and died within 20 and 12 days of hospital stay, respectively.

The development of complications of cirrhosis of the liver, like ascites, encephalopathy and infections, is more likely after acute variceal bleeding. Successful control of bleeding is possible with endoscopic techniques like EST and band ligation and newer pharmacological agents including somatostatin. Bacteremia is known to occur in 5%-52% of cirrhotics, especially in those with decompensated disease. The clinical signifi-
Table: Results of EST (52 sessions) in cirrhotic patients with acute variceal bleeding

<table>
<thead>
<tr>
<th>Sex</th>
<th>Child's</th>
<th>Child's</th>
<th>Etiology</th>
<th>Control of bleeding</th>
<th>Post-EST symptoms</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>(M:F)</td>
<td>status</td>
<td>of cirrhosis</td>
<td>(A/B/C)</td>
<td>n (%)</td>
<td>Fever - 22 (42)</td>
<td>1 week - nil</td>
</tr>
<tr>
<td>36:16</td>
<td>40:12</td>
<td>Alcohol - 32</td>
<td>Ist attempt</td>
<td>1st attempt</td>
<td>Dysphagia - 8 (15)</td>
<td>30 days - 2 (4)</td>
</tr>
<tr>
<td>HBV - 10</td>
<td>(within 12 h) - 49 (94)</td>
<td>Dysphagia - 8 (15)</td>
<td>30 days - 2 (4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCV - 2</td>
<td>2nd attempt</td>
<td>Pain in chest - 6 (11)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptogenic - 8</td>
<td>(within 24-72 h) - 52 (100)</td>
<td></td>
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</tr>
</tbody>
</table>

*Both patients refused a second session of EST (usually performed at 1 week) and died because of recurrent bleed at 12 and 27 days from initial presentation.*

Carcinoma of the breast is debatable. The occurrence of carcinoma is more frequent with the use of endoscopic procedures (EST - 40%, EVL - 25%). This is especially so if the procedure is performed in emergency. Another factor that may be responsible in the Indian set-up is the practice of reusing accessories, including injectors. The Asia-Pacific Working Party recently recommended injectors as one of the three accessories meant for single use only.

Careful handling is required while managing acute variceal bleeding in high-risk patients, as development of complications, especially septicaemia, carries a high mortality. The incidence of bacteremia has been shown to be reduced by the use of prophylactic antibiotics before EST. This has been recently endorsed and upheld at the International Baveno meeting on portal hypertension.

Using prophylactic antibiotics routinely, we have performed 52 sessions of EST for acute variceal bleeding. Post EST symptoms were seen in as high as 27 (52%) sessions (Table). Most of these symptoms were of short duration, lasting 2-7 days only. There were no major complications.

Based on our results, we recommend the use of antibiotics before EST in cirrhotic patients with acute variceal bleeding, although our conclusions are anecdotal and need to be confirmed in a controlled study.

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References


