Bilhemia: A Rare Complication of Hepatic Blunt Trauma, Non Interventional Management and Present Aspect

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Abstract

Bilhemia, defined as the passage of bile into the bloodstream through a bile duct-venous system fistula, is a rare complication after liver blunt trauma. We report here the case of a 20 year-old patient who presented with a liver blunt trauma complicated with bilhemia in whom hemodynamic stability enabled non-surgical management.

Introduction

Bilhemia, defined as the passage of bile into the bloodstream through a bile duct-venous system fistula, is a rare complication after liver blunt trauma. In the very few reported cases, patients presented with hemodynamic instability, thus precluding non-invasive treatment [1-7]. Because of its rarity, the optimal management of bilhemia on hemodynamically stable patients is not consensual [8]. We report here the case of a 20 year-old patient who presented with a liver blunt trauma complicated with bilhemia in whom hemodynamic stability enabled non-surgical management.

Case Report

A 20 year old man was admitted in our institution after an accidental fall from a 3-meters high roof. He presented with hemodynamic stability, Glasgow Coma Score of 7. The initial check-up, including a body computed tomography scan (CT-scan), showed a liver blunt trauma with parenchymal disruption involving between 25 and 40% of the right hepatic lobe, grade IV of the American association for the surgery of trauma liver injury scale [9] (Figure 1). In addition, femur and acetabulum fracture were diagnosed, as well as a left pneumothorax. He was hospitalised in intensive care unit for monitoring after the pneumothorax drainage and orthopedic surgery.

Three days later, he presented with jaundice, associated with a rapid and isolated increase of the bilirubin (40 times the upper limit of normal) without elevation of alkaline phosphatase and gamma-glutamyl transferase (Table 1). A second liver CT-scan was performed and showed a bilioma at the junction of liver segments 7 and 8, surrounding the right hepatic vein (Figure 2).

Ahead of this important and isolated elevation of bilirubin, a passage of the bile to the bloodstream through the right hepatic vein was hypothesised [2]. As the patient was hemodynamically stable, a conservative treatment was decided. No biliary opacification was performed in order to avoid bile infection. Blood bilirubin progressively increased over 8 days in a non-invasive manner (Figure 2).

Table 1: Blood analysis profile.

<table>
<thead>
<tr>
<th></th>
<th>Normal value</th>
<th>Admission</th>
<th>Day 6</th>
<th>Day 8</th>
<th>3 Weeks</th>
<th>4 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total bilirubin</td>
<td>2-17 µmol/l</td>
<td>11 µmol/l</td>
<td>164 µmol/l</td>
<td>436 µmol/l</td>
<td>47 µmol/l</td>
<td>27 µmol/l</td>
</tr>
<tr>
<td>Conjugated bilirubin</td>
<td>0-7 µmol/l</td>
<td>14 µmol/l</td>
<td>356 µmol/l</td>
<td>24 µmol/l</td>
<td>8 µmol/l</td>
<td></td>
</tr>
<tr>
<td>Alanine aminotransferase</td>
<td>15-40 UI/l</td>
<td>284 UI/l</td>
<td>79 UI/l</td>
<td>130 UI/l</td>
<td>53 UI/l</td>
<td>21 UI/l</td>
</tr>
<tr>
<td>Aspartate aminotransferase</td>
<td>15-40 UI/l</td>
<td>428 UI/l</td>
<td>60 UI/l</td>
<td>143 UI/l</td>
<td>36 UI/l</td>
<td>17 UI/l</td>
</tr>
<tr>
<td>Gamma-glutamyl transferase</td>
<td>8-60 UI/l</td>
<td>25 UI/l</td>
<td>104 UI/l</td>
<td>188 UI/l</td>
<td>51 UI/l</td>
<td>22 UI/l</td>
</tr>
<tr>
<td>Alkaline phosphatase</td>
<td>40-120 UI/l</td>
<td>66 UI/l</td>
<td>92 UI/l</td>
<td>145 UI/l</td>
<td>434 UI/l</td>
<td>63 UI/l</td>
</tr>
</tbody>
</table>

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Received July 07, 2015; Accepted September 19, 2015; Published September 27, 2015


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In the present case, the good patient condition and hemodynamic stability encouraged us to favor a conservative therapy, leading to the spontaneous closure of the fistula.

**Conclusion**

Bilhemia consecutive to bilo-venous fistula is a very uncommon condition. Due to its rarity, only few cases have been reported. Although no consensus exists regarding its treatment, it may depend on the hemodynamic status and patient's comorbidities. We report here that a conservative therapy can be a safe option when the patient is in good condition. Defining decision criteria between conservative, endoscopic and surgical treatments should be of interest.

**References**


A review of the literature reported only 50 cases of bilhemia in adults with a lethality rate near 50% [4]. Due to the few numbers of cases described, there is no consensus regarding how bilo-venous fistula should be treated and the proposed strategies are varied. Some authors have reported the use of endoscopic sphincterotomy and retrograde stent placement at the location of the fistula, to plug the hole and decrease the bile pressure in order to avoid its passage onto the bloodstream [5,6]. Percutaneous transhepatic drainage with continuous suction of the bilioma have also been proposed [11]. At last others authors described partial liver resection, T-tube drainage of the common bile duct, and suture of the fistula [2] or occlusion of the fistula during angiography [7].