

Emergency embolization of post-traumatic hemobilia

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A case of post-traumatic hemobilia in a 18 year-old patient is reported. The patient had a motorcycle accident and underwent exploratory laparotomy at a rural hospital. A deep laceration of the right lobe of the liver was found and treated by suture repair. One week later he underwent another exploratory laparotomy because of massive upper gastrointestinal bleeding and the diagnosis of hemobilia was made by the observation of blood coming out of the ampulla of Vater when a duodenotomy was done. The bleeding stopped spontaneously. One month later he had another episode of upper gastrointestinal bleeding and was transferred to Chulalongkorn Hospital. The diagnosis of hemobilia was subsequently confirmed by angiography which revealed a false aneurysm arising from the segmental branch of the right hepatic artery and the extravasation of contrast media into the biliary tract. Transcatheter embolization with Gelfoam resulted in immediate cessation of bleeding. Repeat angiography 10 days later showed complete disappearance of the false aneurysm. The patient made an uneventful recovery.

Key words : Hemobilia, Trauma, Emblization.

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รายงานผู้ป่วย 1 ราย ที่มีเลือดออกจากระบบทางเดินอาหารส่วนต้นจากภาวะ Hemobilia เป็นผู้ป่วยชายอายุ 18 ปี ได้รับอุบัติเหตุรถจักรยานยนต์ประมาณ 2 เดือน ก่อนมารับการรักษาที่โรงพยาบาลจุฬาลงกรณ์ การผ่าตัดครั้งแรกได้รับอุบัติเหตุที่โรงพยาบาลแห่งหนึ่งพบว่ามีบาดแผลฉีกขาดที่ตับ ซึ่งได้รับการรักษาโดยการเย็บ หลังผ่าตัด 1 อาทิตย์ผู้ป่วยมีเลือดออกจากระบบทางเดินอาหารส่วนต้นและได้รับการผ่าตัดอีกครั้งหนึ่ง พบว่ามีเลือดออกมาจาก ampulla of Vater เข้าสู่ duodenum เลือดหยุดเองและผู้ป่วยได้รับอนุญาตให้กลับบ้านหลังจากที่แผลหายดีแล้ว 1 เดือนต่อมาผู้ป่วยมีเลือดออกจากระบบทางเดินอาหารส่วนต้นอีกครั้งหนึ่ง และได้รับการส่งต่อมารักษาที่โรงพยาบาลจุฬาลงกรณ์ จากการทำ angiography พบว่ามี false aneurysm จากแขนงของ right hepatic artery ตัว false aneurysm ติดต่อกับระบบทางเดินน้ำดี ผู้ป่วยได้รับการรักษาโดย transcatheter embolization ด้วย Gel foam หลังทำพบว่าไม่มีเลือดออกจากระบบทางเดินอาหารส่วนต้นอีกเลย จากการทำ angiography อีกครั้งหนึ่ง 10 วันต่อมาไม่พบว่ามี false aneurysm ผู้ป่วยมารับการตรวจอีกครั้งหนึ่ง 5 เดือนต่อมา พบว่ามีร่างกายสมบูรณ์แข็งแรงดี

Hemobilia, hemorrhage into the biliary tract, is usually secondary to hepatic trauma,^(1,2) abnormality of hepatic vasculatures^(3,4) or iatrogenic procedures on the liver and biliary tract.⁽⁵⁻⁸⁾ The classic clinical triad of hemobilia are gastrointestinal hemorrhage, jaundice and biliary pain. We report here a case of post-traumatic hemobilia who presented with painless gastrointestinal bleeding without jaundice and was successfully treated by transcatheter embolization.

Case report

A 18-year-old male, was admitted with a history of recurrent hematemesis and melena of 6 weeks' duration. He had a motorcycle accident 2 months before this admission. An exploratory laparotomy at a rural hospital revealed a deep laceration of the right lobe of the liver which was treated by suture repair and drainage. One week later a massive upper gastrointestinal bleeding occurred and the diagnosis of stress ulcer was suspected. A gastroscopy was undertaken but failed to demonstrate the bleeding lesions owing to a lot of blood clot in the stomach and another exploratory laparotomy was performed. A gastrotomy revealed a normal gastric and proximal duodenal mucosa. When a longitudinal duodenotomy was performed, it was found that the bleeding came out of the ampulla of Vater, however, it stopped spontaneously and the duodenotomy was closed. No definite procedure was attempted upon the liver and

biliary tract at that moment due to severe adhesion and inflammatory process from previous laparotomy. He had an uneventful post-operative course and was discharged home 7 days after the operation. One month later he had a new episode of painless hematemesis and melena and was transferred to Chulalongkorn Hospital for further management. Initial physical examination at Chulalongkorn Hospital revealed mild anemic young man without jaundice. The vital signs were normal. Emergency gastroscopy was carried out but was terminated during the procedure due to the unstable hemodynamics. The endoscopist noted the active bleeding refluxing from the duodenum to the stomach, the gastroscope could not be passed into the duodenum. This was followed by selective hepatic angiography via right femoral artery which showed a false aneurysm arising from the anterosuperior branch of the right hepatic artery (figure 1 and 2). The aneurysm was connected to the right intrahepatic bile duct and common bile duct (figure 3). No arterio-portal fistula was noted. Selective embolization of the anterosuperior branch of the right hepatic artery was successfully performed with small fragments of Gelfoam. No gastrointestinal bleeding was observed since then. Selective hepatic angiography 10 days later revealed complete occlusion of the segmental branch of the right hepatic artery (figure 4). There was no changes of the liver function tests at post-embolization period. The patient is now well with no symptoms five months after the embolization.

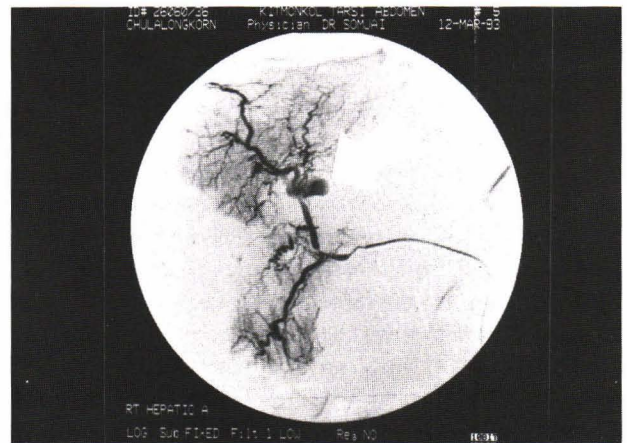
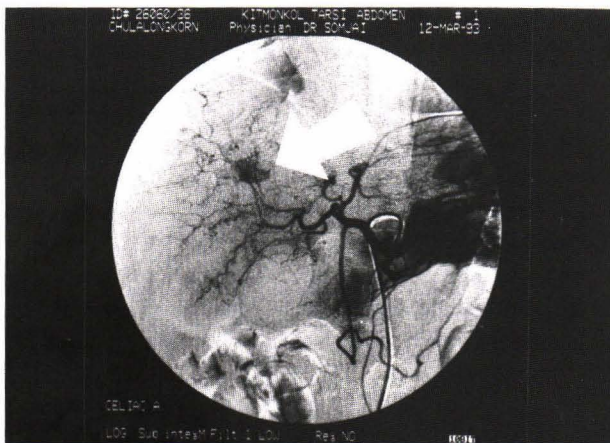


Figure 1 and 2. Pre-embolization right hepatic arteriography showing a false aneurysm arising from the anterosuperior branch (arrow).

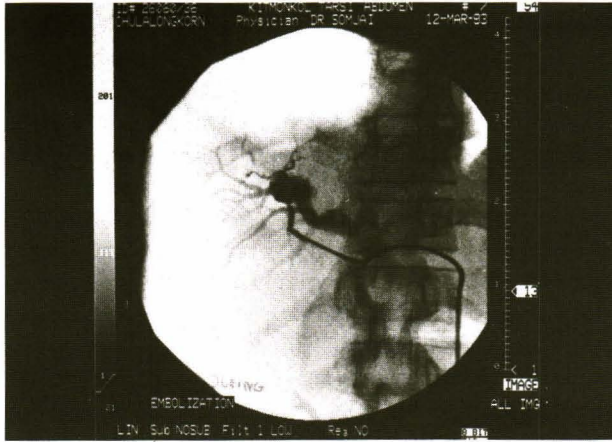


Figure 3. The contrast media was also noted in the biliary tract.

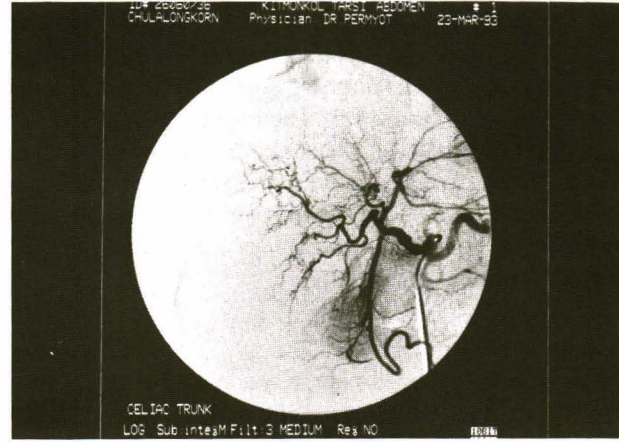


Figure 4. Hepatic artery angiography 10 days after transcatheter embolization showing complete occlusion of the segmental branch of the right hepatic artery.

Discussion

Hemobilia, an uncommon cause of gastrointestinal bleeding, carries a high mortality if unrecognized. In the past, the diagnosis of hemobilia was frequently made at post mortem examination.⁽¹⁾ Post-traumatic hemobilia is strongly suspected in patients who present with a triad of clinical signs: abdominal pain, jaundice and gastrointestinal hemorrhage following a hepatic trauma. It may be quite difficult to diagnose when the presentation is not typical. In our case the classic triad of hemobilia was not present, no jaundice nor biliary colic was observed and the gastrointestinal bleeding was originally thought to be due to stress ulcer until the time of operation when the diagnosis of hemobilia was made by the observation of blood coming out of the ampulla of Vater. Hemobilia is best diagnosed by angiography.⁽²⁻⁶⁾ Some investigators reported the diagnosis of hemobilia by duodenoscopy. However, angiography seem to be a superior investigation owing to its therapeutic value when the vascular lesion was demonstrated. In reality, gastroduodenoscopy is usually performed first in patients who present with gastrointestinal bleeding followed by angiography when hemobilia is suspected. Successful conservative management of post-traumatic hemobilia has been reported,⁽¹⁰⁾ however, the natural history of recurrent bleeding and high mortality rate are significant drawbacks of such therapy.⁽²⁾ A variety of surgical procedures have been introduced to cure hemobilia. The most commonly reported are: 1) local control of bleeding points in the lacerated liver; 2) hepatic resection; 3) hepatic artery ligation; all of which carry a definite morbidity and mortality.⁽²⁾ Selective hepatic artery embolization in the treatment of post-traumatic hemobilia was first reported in 1978⁽¹¹⁾ and has become the treatment of choice of post-traumatic hemobilia since then.^(12,13) The embolization must be as selective as possible to avoid the risk of massive hepatic ischemia

in post-traumatic liver. Although some degree of liver damage after selective embolization is inevitable, the area of infarction should be less than when resection or hepatic artery ligation had been employed. Gelfoam is, by far, the most popular material used for embolization.⁽¹¹⁻¹³⁾ Adequate embolization gives rapid and complete hemostasis in most circumstances. In other instances, reembolization at a later date may be required.⁽¹¹⁾

Conclusion

A case of post-traumatic hemobilia is reported. The diagnosis was made at the time of exploratory laparotomy by the observation of blood coming out of the ampulla of Vater and was confirmed by angiography. Transcatheter embolization with Gelfoam was performed successfully without complications. Post-traumatic hemobilia should be suspected in patients who has gastrointestinal bleeding after liver trauma. Transcatheter embolization is the recommended treatment of this rare condition.

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