

Right hepatic artery aneurysm

Aneurisma de artéria hepática direita

ASTRID DEL PILAR ARDILA BERNAL¹; PAULO LOURES, TCBC- RJ²; JUAN CRISTÓBAL OSPINA CALLE¹; BEATRIZ CUNHA²; JUAN CAMILO CÓRDOBA¹.

ABSTRACT

We report a case of an aneurysm of the right hepatic artery and its multidisciplinary management by general surgery, endoscopy and radiology services. Being a case of extremely low incidence, it is important to show its diagnostic and therapeutic approach.

Keywords: Aneurysm. Viscera. Hepatic Artery. Hemobilia.

INTRODUCTION

The first reported case of hepatic artery aneurysm (HAA) is attributed to James Wilson, an anatomist in the year 1809, and the first successful repair was credited to the German surgeon Dr. Hans Kehr in the year 1903¹.

This is a potentially fatal disease when presenting rupture. The rupture rate is controversial and varies between 20% and 80%, clearly determined by the inability to detect asymptomatic aneurysms. The aneurysms of the hepatic artery and its branches are unusual vascular lesions, corresponding to approximately 21% to 44% of all visceral aneurysms¹.

CASE REPORT

A female, 89-year-old patient was hospitalized with a longstanding abdominal pain which had worsened in the days prior to hospitalization, associated with severe anemia and one episode of hematemesis studied with upper endoscopy (UE), which showed no bleeding, whether active or recent. The abdominal computed tomography (CT) showed dilatation of bile ducts, aerobilia, as well as gallbladder with thickened walls. The suggested diagnosis was acute complicated cholecystitis. She was admitted and medical treatment started.



Figure 1. Abdominal CT scan with contrast showing right hepatic arterial malformation (smaller circle) and intra-parenchymal hematoma (larger circle).

Three days after admission, the patient persisted with anemia and need for blood transfusion. A new UE showed hemobilia and new abdominal CT without contrast showed: dilatation of intra and extrahepatic bile ducts, especially in the right lobe, with heterogeneous content; intra-pancreatic bile duct of 14 mm in diameter; gallbladder with thickened

1 - Carlos Chagas Medical Postgraduate Institute, Rio de Janeiro, RJ, Brazil. 2 - Carlos Chagas State Hospital, Rio de Janeiro, RJ, Brazil.

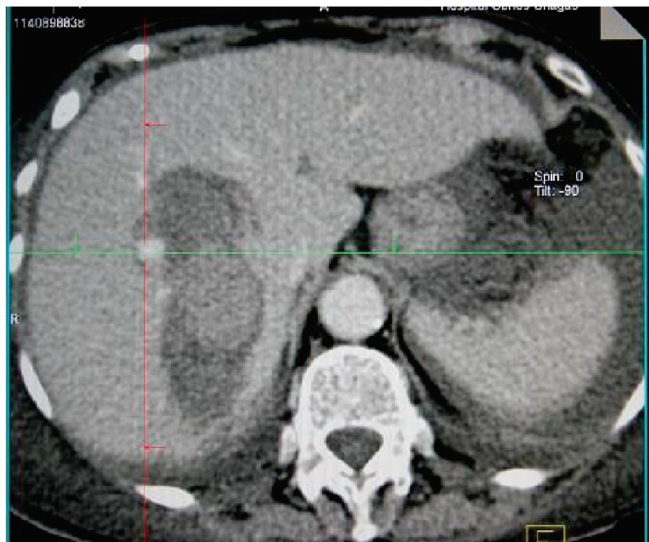


Figure 2. CT: section showing abundant hemoperitoneum.

walls and heterogeneous content, with interposed gas focus; free fluid in the peritoneal cavity, of heterogeneous density in the parieto-colic gutters, suggesting hemoperitoneum; and questionable intrahepatic vascular ectasia of the right lobe. The complete CT study, this time with venous contrast, showed hemoperitoneum and a hyperdense formation relative to the hepatic parenchyma in segments VII and VIII measuring approximately 2.32x5.44 cm, suggestive of malformation of the right hepatic artery (Figures 1 and 2). When compared to the previous CT, the hepatic intra-parenchymal hematoma had increased, with rupture of hepatic capsule and extravasation into the peritoneal cavity (Figure 3).

The fall in hematocrit continued, for which she again received transfusion in the same day. Given the impossibility of performing liver angiography and instability of the patient, the emergency service staff decided to perform an exploratory laparotomy. The inventory of the cavity revealed massive hemoperitoneum, hepatomegaly, gallbladder with thickened walls containing multiple calculi, common bile duct with significant dilation and a ruptured hematoma in the hepatic segment VII, with active bleeding.

We evacuated the hemoperitoneum, compressed the hematoma, and dissected the hepatic hilum with identification of the common hepatic artery bifurcation and ligation of the right hepatic artery. We proceed-

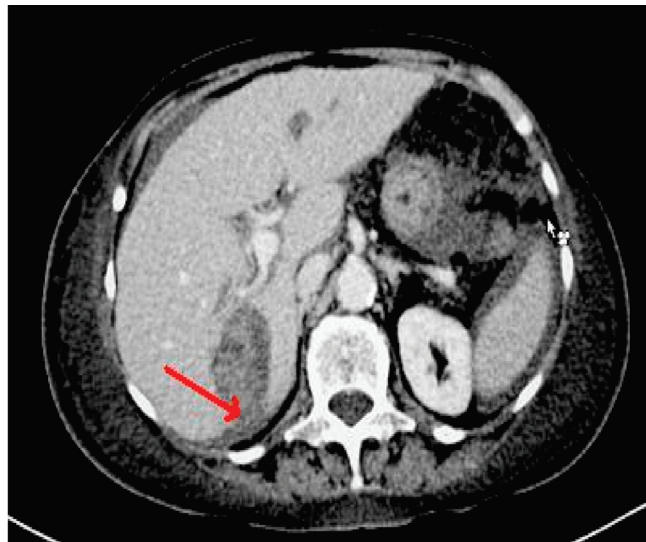


Figure 3. CT: hematoma rupture and extravasation into the peritoneal cavity (arrow).

ed to cholecystectomy with exploration of the bile duct, from where we removed a large calculus and a large clot.

DISCUSSION

The HAA is clinically important because of its high mortality rate (25% to 70%) when rupture occurs. The most common incidence is between the fifth and sixth decades of life and the most common location is extrahepatic. Hepatic aneurysms compromise the common hepatic artery 70% to 80% of cases. Multiple etiologies have been described including atherosclerosis, abdominal trauma, surgical procedures, degenerative diseases, infections, collagen vascular disease, and congenital anomalies.

Multiple complementary tests are available for diagnosis, such as abdominal ultrasound, CT, angio-CT, MRI, endoscopy and angiography. The latter is not only a diagnostic tool, but also a therapeutic modality of choice in splanchnic aneurysms through embolization. It can also provide evidence of collateral circulation, determine the size and shape of the aneurysm, uncover arterioportal fistulas and provide accurate anatomical information necessary for embolization or surgery.

In general, the location of the aneurysm elects its therapeutic approach: Intrahepatic HAA – preferably treated by selective embolization or partial liver resection; Extrahepatic HAA – can be treated by per-

cutaneous obliteration in patients with high operative risk, but the ideal treatment is resection and arterial reconstruction. When the HAA is located in the common hepatic artery, one may use embolization or aneurysm ligation without arterial reconstruction, but

when located in the proper hepatic artery, it requires vascular reconstruction to avoid hepatic ischemia secondary to interruption of the collateral circulation reflowing through the gastroduodenal and right gastric arteries¹⁻⁵.

R E S U M O

Relatamos um caso de aneurisma da artéria hepática direita conduzido de forma multidisciplinar pelos Serviços de Cirurgia Geral, Endoscopia e Radiologia. Em se tratando de caso de incidência baixíssima, é importante mostrar o enfoque diagnóstico e terapêutico usado em seu manejo.

Descritores: Aneurisma. Visceras. Artéria Hepática. Hemobilia.

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Received in: 11/02/2016

Accepted for publication: 01/05/2016

Conflict of interest: none.

Source of funding: none.

Mailing address:

Astrid del Pilar Ardila Bernal

E-mail: pilar.ardila.bernal@hotmail.com