

## Huge aneurysm of the proper hepatic artery

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### Abstract

Hepatic artery aneurysms are rarely diagnosed. It is mainly because of non specific symptoms. They are generally an incidental findings during imaging studies. They are usually detected in the sixth decade, predominantly in men. We report herein a case of an 80 year-old man with a huge hepatic artery aneurysm revealed by abdominal pain and chronic anemia. It was treated by embolisation. Hepatic artery aneurysms are second among visceral aneurysms. They may cause abdominal pain, jaundice and hemorrhagic events.

### Introduction

Hepatic artery aneurysms (HAAs) are rare, representing about 0.01-2% of all arterial aneurysms.<sup>1</sup> They are the second most common aneurysm of the splanchnic system after splenic artery aneurysms.<sup>2</sup> The rupture of hepatic artery aneurysms is seen in more than 80% of patients. Mortality is approaching 40% for the surgical treatment.<sup>3</sup>

### Case Report

An 80-year old men who had a medical history of arterial hypertension, was admitted for gastro intestinal bleeding and anemia. The hemoglobin rate was 4 g/dL, liver blood tests were normal. Physical examination showed an upper right abdominal tenderness.

Upper endoscopy and colonoscopy showed no abnormality. Abdominal ultrasonography with arterial Doppler revealed a 6 cm well surrounded mass of the liver with a color flow. A thrombosed aneurysm was evocated. The computed tomography showed a giant (62 mm) hepatic artery aneurysm, which compressed the pancreatic duct (Figure 1). No hemoperitoneum was seen. The patient underwent a successful embolization of the aneurysm (Figure 2). The outcomes were uneventful with normal liver blood tests.

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Key words: Aneurysm; hepatic artery; embolization.

Contributions: MAA, data collection; RB, writing the paper; ZM, study concept or design writing the paper; SO, data analysis; LG, data analysis; MTK, writing and correcting the paper.

Conflict of interest: the authors declare no potential conflict of interest.

Received for publication: 22 March 2015.

Revision received: 6 May 2016.

Accepted for publication: 25 May 2016.

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Clinics and Practice 2016; 6:846  
doi:10.4081/cp.2016.846

He was seen one year after and he continued to do well with normal liver function and no recanalization of the aneurysm in abdominal computed tomography (CT) scan control.



Figure 1. Computed tomography angiography with three-dimensional reconstruction showing an aneurysm of proper hepatic artery.



Figure 2. Computed tomography scan after embolization showing embolization coils into hepatic artery.

## Discussion

HAA can occur in the common, proper, left or right hepatic arteries. The incidence is estimated to be between 0.002 and 0.4%.<sup>4</sup> The diagnosis is difficult at first, because the symptoms are not specific. HAA can be revealed by pain, jaundice and hemorrhagic symptoms. Rupture can be intraperitoneal, into the biliary tree or into the gastro intestinal tract. Unlike aortic aneurysm, the correlation between the size and the possibility of rupture is still unknown. It is reported that all lesions warrant treatment.<sup>5</sup>

On ultrasonography, the aneurysm appears as an anechoic mass or a complex mass with an anechoic center located often at the porta hepatis. The abdominal CT, the magnetic resonance imaging and the mesenteric angiography can have more accuracy.<sup>6</sup> In our case, the diagnosis was suspected on ultrasonography and confirmed by the abdominal CT.

Therapeutic options include the embolization of the aneurysm, the stenting across the parent vessel, the embolization of the common hepatic artery or a surgical repair with or without reconstruction. Endoscopic treatment represents an alternative with good results and a

lower mortality and morbidity rate.<sup>7</sup> The incidence of hepatic necrosis following the interruption of the common hepatic artery is low, owing to a rich hepatic collateral supply.<sup>8</sup> The percutaneous embolization has a particular value in intrahepatic aneurysms and in high risk patients. This treatment option was chosen, in our case, regarding to the age of the patient, the comorbidities (hypertension) and the profound anemia. The hepatic aneurysm was intrahepatically located. Regular follow up is recommended as recanalization may occur.

## Conclusions

HAA should be diagnosed before rupture. Abdominal pain, bleeding or compression may be the first symptoms.

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