# Hepatic Artery Aneurysm: A Rare Cause of Obscure Upper Gastrointestinal Bleeding

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ABSTRACT

Hepatic artery aneurysms are rare and represent 0.01-0.2% of all arterial aneurysms. The patient may present with abdominal pain, which may be associated with a mass. More acutely, patients present with signs of hypovolemia secondary to rupture of the aneurysm. The patient reported here presented with right upper abdominal pain and gastrointestinal hemorrhage of unknown etiology. A CT angiogram showed presence of hepatic artery aneurysm. Aneurysm was excised at laparotomy.

*Key words* Hepatic artery aneurysm, Gastrointestinal bleed, Hepaticobiliary fistula.

#### **INTRODUCTION:**

Hepatic artery aneurysm (HAA) is a rare entity especially presenting as upper gastrointestinal bleed due to presence of hepaticobiliary fistula. Aneurysm of the visceral arteries are uncommon.<sup>1</sup> Hepatic artery aneurysm (HAA) represents approximately 20% of all splanchnic aneurysms and the third in rank of visceral aneurysms.<sup>2,3</sup> Men are affected twice as often as women and these lesions are usually discovered in the sixth decade of life.<sup>4</sup>

Visceral artery aneurysm most commonly involves splenic, hepatic, superior mesenteric and celiac arteries in descending order of frequency. Concomitant non-visceral aneurysms are documented in 42% of patients and concomitant visceral aneurysms are present in 31% of patients.<sup>4,5</sup>

#### **CASE REPORT:**

A 45 years old male presented with six months history of severe right upper abdominal pain that was intermittent and colicky in nature and a four days history of bleeding per rectum, weakness and lethargy. There was no history of peptic ulcer disease or prior use of non-steroidal anti-inflammatory drugs. At presentation the patient was hemodynamically stable, but was in severe agony due to pain and needed strong narcotic analgesia at admission and during subsequent episodes. There was moderate tenderness in right hypochondrium and altered blood on digital rectal examination.

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Dr. Aftab Ahmad Baig) Department of Surgery, Surgical Unit II, Shaikh Zayed Hospital, Lahore. E mail: draabaig@hotmail.com His initial hematological investigations showed mild anemia and positive anti Hepatitis C Virus status. Multiple upper gastrointestinal endoscopies were done but none of them revealed any significant abnormality apart from mild gastroduodenitis. CT angiogram showed 2 cm x 3.5 cm aneurysm of common hepatic artery with ectatic vessel and an aberrant vessel arising from left gastric artery supplying to segment 2 and 3 of left lobe of liver (Fig-I).



Fig-I: Hepatic artery aneurysm

Surgical excision planned keeping in mind the strong possibility of hepaticobiliary fistula. On exploration large aneurysm was found starting just distal to the origin of common hepatic artery and extending up to porta hepatis and had fistulous communication with common hepatic duct just below confluence (Fig-II). Aneurysm was excised along with common bile duct and reconstruction was done with Roux-en-Y hepaticojejunostomy. Patient had uneventful recovery and remained well on subsequent visits



Fig-II: Hepaticobiliary fistula

## **DISCUSSION:**

The etiology of HAA is varied including both congenital and acquired causes. Mycotic origin was the most frequent in last century but other causes like atherosclerosis, vasculitis, polyarteritis nodosa (typically multiple intrahepatic microaneurysm) etc are not uncommon. The congenital causes include Marfan syndrome, Osler-Weber-Rendu syndrome and many others.<sup>2,4,6</sup>

Most of the HAA are discovered incidentally in asymptomatic state due to frequent use of CT scan and MRI. Sometime they may cause right upper quadrant and epigastric pain. Physical evidence depends upon the size of the aneurysm. HAA may also present with obstructive jaundice due to pressure effect on extrahepatic biliary tree. Less than 20% of all HAA present as clinical emergency.<sup>7</sup>

Erosion and leakage is a common symptomatic presentation of complicated HAA, typically causing hemobilia, gastrointestinal bleeding, melena etc. Similarly fistulous communication with portal vein (arterio-portal fistula) has been reported.<sup>8</sup> Occasionally, large HAA may rupture freely into the peritoneal cavity. The mortality rate in case of rupture is approximately 35%.<sup>7</sup>

Management of HAA is indicated if symptomatic or if the diameter exceeds 2 cm. In case of nonatherosclerotic aneurysm, all HAA should be treated because of their propensity of rupture.<sup>4,9</sup> For extrahepatic HAA, different surgical options have been described. Intrahepatic aneurysm can be treated with partial liver resection or selective embolization.<sup>10</sup> In index case diagnosis was established with CT scan and MRI though presentation was typical. The lesion was extrahepatic and open surgery was chosen to treat this symptomatic aneurysm with good outcome.

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