Planchnic artery aneurysms (SAA) are seen rarely, but this entity is clinically important. Hepatic artery aneurysms (HAA) may be seen as the true aneurysms or pseudoaneurysms. True HAA is the fourth most common site of planchnic artery aneurysm, following infrarenal aorta, iliac artery and splenic artery. HAA accounts for approximately 20% of SAA, 80% of which are extrahepatic and solitary. The rest are intrahepatic. It is known that 63% of HAAs involve the common hepatic artery. False aneurysms mostly occur in the right hepatic artery. Previously, HAAs were known to be frequently caused by mycotic infections and inflammation. However currently, atherosclerosis is accepted as the most common cause.
of HAA. Most SAAs are generally asymptomatic and usually found incidentally. Rupture of HAA is the first clinical manifestation in 80% of the cases. Here, we report a rare case of a patient with a HAA who was treated successfully.

**CASE REPORT**

A 54 year-old female patient whose HAA was incidentally detected with abdominal ultrasonography two years ago, was referred to our clinic. She had left upper quadrant pain. In the physical examination; tenderness, rebound, or distension was not observed in all four quadrants. Vital findings included heart rate of 82 bpm, arterial blood pressure of 110/60 mmHg. Laboratory tests revealed; hemoglobin of 12.5 gr/dl, ALP of 25 units/L, ALT of 18 units/L, AST of 17 units/L, creatinine of 0.9 mg/dL and total bilirubin of 0.6 mg/dL. Celiac angiography demonstrated a HAA in 4x6 cm diameters, arising from common hepatic artery (Figure 1).

We opened the abdominal wall through a median incision from umbilical region up to xiphoid. Sharp and blunt dissection was used to reach the free proximal hepatic artery, distal hepatic artery and gastroduodenal artery (Figure 2). After 5000 IU of systemic heparinization, proximal hepatic, distal hepatic and gastroduodenal arteries were clamped. Aneurysm was removed and saphenous vein interposition (6 cm) was performed in the form of end-to-end anastomosis. In addition, gastroduodenal artery end-to-side anastomosis was performed through the interposition of a 2 cm saphenous vein. In the postoperative period, AST and ALT increased up to 1600 and 100U/L, respectively. By time, they decreased to normal values. The patient was discharged on the postoperative eighth day uneventfully.

**DISCUSSION**

Most cases of the HAAAs remain asymptomatic and are commonly diagnosed as an incidental finding on the abdominal ultrasonography or computerized tomography. The first clinical manifestation is the rupture of the aneurysm in most of the HAA cases. The other clinical signs are abdominal pain and gastrointestinal hemorrhage. The classic triad of HAA are epigastric pain, hemobilia and obstructive jaundice; just about one third of the patients admit to hospital with these complaints. In the present case, the patient was diagnosed with the complaint of abdominal pain two years ago.

There are different etiologies for HAAAs. In the etiology, mycotic aneurysms were accused for most of the HAA cases previously, but currently, atherosclerosis is reported to be the most common cause of HAAAs. In addition, other causes of HAAAs such as medial degeneration and congenital fibrodyplasia are common. In our case, any causes other than atherosclerosis were not detected. Moreover, syphilis, tuberculosis or Behçet disease were not detected as well.

When the diameter of a HAA is greater 2 cm, intervention is recommended. The most advised
option of the treatment is percutaneous transcathe
ter embolization (PTE). The PTE is mostly pre-
ferred for intrahepatic or pseudoneuromas.

Another option is the ligation. Ligation is only re-
commended when the aneurysm is solely located in
the proximal parts of common hepatic artery be-
cause the gastroduodenal artery can provide colla-
ral blood supply to the liver from the superior
mesenteric artery. If the aneurysm is located at
more distal regions, ligation is generally contrain-
dicated because of the liver necrosis risk. In this in-
stance, liver can be assessed intraoperatively for
development of cyanosis. Options other than liga-
tion include aneurysmorhaphy of aneurysm, ex-
cision aneurysmorhaphy of aneurysm with graft
interposition, excision with splenohepatic anasto-
mosis and aortohepatic bypass. In our case, HAA
was located at the bifurcation of right or left hepa-
tic arteries. Thus we carried out surgical repair of
the HAA by using saphenous veins (Figure 3).

In conclusion, HHA can be complicated by
rupture and medical endovascular and/or surgical
treatment can be used to control the aneurysm de-
pending on the diameter of aneurysm and hemody-
namic status of the patients. The rupture of HAAs
may lead to a life-threatening situation. Thus, for
appropriate patients, endovascular treatment shou-
dl be considered to be a first choice of treatment
of HAA, but open surgery is inevitable in case of
either failure or lack of availability of the endovas-
cular procedures.

**Conflict of Interest**

Authors declared no conflict of interest or financial sup-
port.

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