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RARE CASE OF HEPATIC ARTERY PSEUDOANEURYSM

PRZEMYSŁAW WYŻGOWSKI[1], TOMASZ GRZELA[1], MARTA PRZYBYŁ[1], URSZULA NOWAKOWSKA[1,2], KRZYSZTOF LEKSOWSKI[1,2]

Department of General Surgery, 10. Military Hospital in Bydgoszcz[1]
Kierownik: prof. dr hab. *K. Leksowski*
Department of Public Health, Nicolaus Copernicus University, L. Rydygier Collegium Medicum in Toruń[2]
Kierownik: prof. dr hab. *K. Leksowski*

Hepatic artery aneurysms are rare, but potentially life-threatening vascular pathologies. They are usually discovered incidentally during imaging diagnostics of different pathologies. The study presented a rare case of hepatic artery pseudoaneurym with a fistula to the left branch of the portal vein.
Key words: pseudoaneurysm, hepatic artery, aneurysm

Hepatic artery aneurysms account for approximately 20% of all visceral aneurysms (1, 2). In 50% of cases these lesions are considered as pseudoaneurysms, developing most commonly as a result of iatrogenic damage to the hepatic artery and its branches during surgery within the bile ducts, liver, stomach, pancreas, and retroperitoneal space (3). In most cases they are asymptomatic, usually discovered incidentally during imaging diagnostics of other pathologies (4). Traditional management consists in the excision of the aneurysm, and if necessary, reconstruction of the hepatic circulation (4). The development of intravascular techniques lead to the management of aneurysms by means of percutaneous techniques. The above-mentioned is considered nowadays, as the method of choice in the treatment of intrahepatic aneurysms and pseudoaneurysms (5, 6, 7).

CASE REPORT

A 73-year old female patient was admitted to the ER, due to epigastric pain lasting approximately for a period of two weeks. The pain intensified during the past three days, radiating towards the back, being accompanied by nausea and vomiting. The patient had a history of classic cholecystectomy, due to cholelithiasis.

The physical examination showed a soft abdomen, pain upon palpation within the right subcostal area without peritoneal signs, and normal peristalsis. Laboratory results were as follows: elevated inflammation markers (WBC 19.69 G/l, CRP 39.84 mg/l), microcytic anemia (RBC 3.27 T/l, HGB 105 g/l, HCT 0.306 l/l), hiponatremia (128 mmol/l), elevated glucose (234 mg%) and creatinine levels (166 μmol/l). Abdominal ultrasound showed an unclear image of the hepatic hilus with a visible fluid compartment, approximately 2x4.4 cm, dilated intrahepatic biliary ducts and right kidney, and suspicion of portal vein thrombosis. The patient was admitted to the Department of Surgery.

Contrast abdominal CT was performed, which revealed the presence of a right hepatic artery aneurysm with a fistula penetrating towards the left portal branch, and dilatation of the common biliary duct (12 mm), and an insignificant amount of fluid near the left hepatic lobe, spleen, and minor pelvis. The patient was qualified for emergency intravascular surgery. The procedure was performed

under local anesthesia by means of access through the right femoral artery. The intravascular catheter was introduced into the celiac trunk visualizing a saccular aneurysm of one of the hepatic artery branches, 30x20 mm in size, with a fistula to the left portal vein. Twelve embolization micro-spirals were introduced into the aneurysmal sac, which lead to significant vascular flow slowdown. A mixture of thrombin and contrast was introduced, which excluded the aneurym from the vascular circulation, being confirmed by means of control angiography. The postoperative course was uneventful.

Control abdominal ultrasound showed lack of vascular flow within the aneurysm. Five days after surgery the patient was discharged from the hospital in good general condition. Control abdominal ultrasound performed after 4 months showed features of aneurysmal recanalization, its significant enlargement, without accompanying symptoms and laboratory abnormalities. Abdominal angio-CT showed partial aneurysmal clotting of the right hepatic artery (6x5 cm in size) with its active flow. Features of fistula presence to the portal vein and extravasation were not observed. The patient was qualified for laparotomy. After clipping the vessels of the hepatic hilus the aneurysmal sac was opened and emptied of its contents, ligating the supplying vessels and partially excising the above-mentioned lesion. The postoperative course was uneventful. The patient was discharged from the hospital in good general condition, seven days after surgery. Control examinations performed after three months showed no laboratory and ultrasound abnormalities.

DISCUSSION

Hepatic artery aneurysmal rupture occurs in less than 20% of patients, with mortality ranging between 20-30%, and even 70-100% (1, 4, 5, 8, 9). Considering the presented case insignificant aneurysmal extravasation was observed. Perhaps this was associated with the extremely rarely observed fistula between the aneurysm and portal vein. The above-mentioned is usually clinically asymptomatic, being difficult to diagnose, which was confirmed in the above-mentioned case. Fistula diagnosis was possible following angio-CT.

Currently, there are several methods considered in the treatment of visceral artery aneurysms, beginning with classical surgery, through intravascular procedures (embolization spirals, cyanoacrylate glues, stents, stent-grafts, thrombin, and the combination of the above-mentioned (3, 10). Clear recommendations have not yet been established, as to treatment considering individual cases (5). A significant complication of intravascular treatment consists in vessel closure leading to liver parenchyma necrosis, abscess development, and cholecystitis. An unfavorable event that is observed in 18-50% of patients is the recanalization of the aneurysm (5). This was the case in our patient, although what's important, without fistula recurrence. It is believed that the use of covered-stents instead of embolization spirals reduces the risk of aneurysmal recanalization (6,11,12). The presented study case showed that patients with hepatic artery aneurysms treated by means of intravascular procedures require regular ultrasound examinations, due to high risk of aneurysmal recanalization.

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Adress correspondence: 85-681 Bydgoszcz, ul. Powstańców Warszawy 5
e-mail: pwyzgowski@gmail.com