Hepatic artery aneurysm in children is a very unusual pathologic entity. As most patients with this anomaly are asymptomatic, the diagnosis is usually made as an incidental finding on imaging studies performed for other reasons. Here, we report a 35-day-old infant with hepatic artery aneurysm, which was diagnosed accidentally as a liver mass during echocardiography. Considering the age of diagnosis, she most likely had a congenital type of hepatic artery aneurysm. To the best of our knowledge, this is the youngest case to be reported in the literature.

Key words: Hepatic artery aneurysm, congenital, infant, liver mass
normal acyanotic newborn with soft systolic murmur over the pericardium without any other abnormal finding. The echocardiography was normal, but a mass in the liver was detected at the time of the evaluation of the hepatic veins. The patient was referred to the pediatric hepatology clinic for further evaluation. Upon arrival in our center, she appeared normal with no organomegaly or any significant abnormal finding.

Hepatobiliary ultrasound was done, which showed a normal liver size and echo pattern, with a cystic mass of about 20 mm in the internal segment of the right lobe and mild dilatation of intrahepatic bile duct.

Color Doppler sonography revealed pulsatile flow within the mass of vascular origin. These findings were in favor of arteriovenous malformation or HAA.

Computed tomography (CT) angiography revealed severe dilatation of the celiac trunk with a huge aneurysm, 4 cm in diameter, arising from the hepatic artery and located in the hepatic artery bifurcation (Figure 1). She was referred to a pediatric surgeon. The parents refused surgical ligation, and she was discharged against medical advice. She was admitted a few weeks later in critical condition and died a few hours later.

**DISCUSSION**

Hepatic artery aneurysm (HAA) was first reported at autopsy in 1809 (3) and in 1959 in children by Jewett (6). HAAs are not initially diagnosed in many cases because the majority of patients are asymptomatic, and in 80% of the cases, rupture of the aneurysm is the first clinical manifestation (2). Other clinical presentations are abdominal pain in 55% and gastrointestinal hemorrhage in 46% (2). The classic triad of epigastric pain, hemobilia and obstructive jaundice are only present in one-third of the cases (2).

There are various etiologies for HAAs. Historically, mycotic aneurysms accounted for most cases, while atherosclerosis is present in as many as 30% of affected patients (2,3,5). Less common causes of HAA are: vasculitides such as polyarteritis nodosa, perianterial inflammation caused by cholecystitis or pancreatitis, fibromuscular hypoplasia or cystic medial necrosis, tuberculosis, and trauma (2,3). Congenital aneurysms have also been reported in children and adults (9-12).

Hepatic artery aneurysms (HAAs) are reported among the anastomotic complications of orthotopic liver transplantation, and also occur after hepatic tumor embolization. The physical examination is usually normal, as in our case, although a large aneurysm may be associated with a pulsatile mass or an abdominal bruit (2,3).

A curvilinear calcification in the right upper quadrant on a plain radiography of the abdomen should raise the possibility of HAA. Ultrasound and CT scan provide the diagnosis in most of the cases. Color Doppler ultrasound can aid in differentiating vascular anomalies from other types of masses. Color Doppler ultrasound also can differentiate aneurysm from other vascular abnormalities such as arteriovenous fistulas or malformations (2,4). A three-dimensional spiral CT may allow a definitive diagnosis to be made prior to angiography (2,3,12,13). Appropriate management of HAA requires detailed angiography (2,14).

The rupture rate in HAAs can reach as high as 44% (15) and the mortality rate as high as 82% (16). The current trend is that all cases should be considered for treatment before rupture of the aneurysm (2,4). Common HAAs can be treated by either surgical ligation or embolization. Embolization is the treatment of choice for intrahepatic aneurysm (4). Most extrahepatic HAAs described in the literature have been treated surgically (3). Considering the age of our case, we believe she had congenital HAA, and to our knowledge, she is the youngest case to be reported to date. We conclude that HAA should be considered in the differential diagnosis of infants with hepatic mass.
# REFERENCES


