Pre-emptive Embolization for Post Liver Biopsy Asymptomatic Type 2 Hepatoportal Fistula

by Youran Gao, Craig Greben, Tai-Ping Lee

A hepatoportal fistula is an abnormal communication between the hepatic artery and the portal vein that may be congenital or acquired. Often the fistula is small and asymptomatic, however, in rare instances the fistula may grow in size and become clinically significant. We present a case of a moderate to large, asymptomatic type 2 hepatoportal fistula developing after liver biopsy and its management.

INTRODUCTION

Hepatoportal fistulas are arteriovenous communications between the splanchnic artery and the portal vein that can be either congenital (type 3) or acquired (type 1 small peripheral, type 2 large central).1 Type 1 fistulas are usually transient and asymptomatic, whereas type 2 fistulas can cause portal hypertension complicated by variceal bleed or ascites. Herein, we describe a case of a patient who developed a moderate to large fistula after liver biopsy which was embolized with n-butyl-2-cyanoacrylate (NBCA) prior to developing symptoms.2,3

CASE

A 75 year-old woman with autoimmune hepatitis with overlap syndrome was seen at a follow up clinic visit. She underwent an ultrasound guided left lobe liver biopsy one year prior for worsening liver enzymes. The biopsy, which was without complication, confirmed chronic hepatitis with prominent mononuclear portal inflammation. Her liver enzymes returned to baseline within three months without specific intervention. Upon her return to the hepatology clinic one year after liver biopsy, a routine ultrasound of the abdomen was performed. The ultrasound showed a moderate to large communication of the left hepatic artery with the left portal vein with reverse flow on color Doppler ultrasonography. Magnetic resonance imaging (MRI) with contrast confirmed the presence of a moderate sized communication between the left hepatic artery and the left portal vein. Injection of contrast showed retrograde flow into a branch of the portal vein. Although the patient was asymptomatic, she was referred to interventional radiology for embolization due to the size of the fistula. Segment 2 of the left hepatic artery was successfully embolized using 0.3 cc 40% n-butyl-2-cyanoacrylate (NBCA). A post embolization contrast study demonstrates elimination of fistula. The procedure was without complications and well tolerated.

DISCUSSION

The first instance of hepatoportal fistula was described by Goodhard in 1889.4 It is an aberrant communication between the hepatic artery and the portal vein. Etiologies include congenital, blunt or penetrating trauma, rupture of the hepatic artery, iatrogenic causes (liver biopsy,
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Figure 1. Left hepatic angiography showing segment 2 hepatic artery to left portal vein fistula (arrow).

Figure 2. Hepatic Angiography showing post hepatoportal fistula embolization with n-butyl-2-cyanoacrylate (arrow).

that is changing in size, moderate or large should be considered for radiological guided embolization. Pre-emptive treatment using NBCA for embolization can prevent development of portal hypertension and its complications. ■

References