Huge Portal Vein Aneurysm in a Cirrhotic Patient: Case Report

Sirozlu Bir Olguda Dev Portal Ven Anevrizması

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ABSTRACT Aneurysm of the portal venous system is a rare clinical condition and may be defined as a localized fusiform or saccular dilatation of the portal system. It may be congenital or acquired. The presence of hepatic cirrhosis and portal hypertension are generally associated with acquired types. In cases with a maximum portal vein diameter of more than 20 mm, it can be mentioned as portal venous system aneurysm. Two most common anatomic localizations that these aneurysms develop are the main portal vein and the junction of splenic and superior mesenteric veins. In this report, we present a case of portal vein aneurysm, being localized at the junction of the left branch of the portal vein and umbilical vein, that was very rarely reported in the literature.

Key Words: Aneurysm; liver cirrhosis; hypertension, portal

ÖZET Portal venöz sistem anevrizması nadir görülen bir klinik durumdur ve portal sistemin lokalize fuziform ve sakküler genişlemesi olarak tanımlanabilir. Anevrizmal genişleme doğumsal veya sonradan edinilmiş olabilir. Hepatik sirozun ve portal hipertansiyonun varlığı genellikle sonradan edinilmiş tipleri ile ilişkilidir. Maksimum portal ven çapı 20 mm'nin üzerinde olan olgularda portal venöz sistem anevrizmasından bahsedilebilir. Bu anevrizmaların en sık gözlendiği iki yer; ana portal ven ve splenik ven ile süperior mezenterik venin birleşim yeridir. Bu raporda, portal venin sol dalı ve umblikal ven bileşkesinde lokalize olan ve literatürde çok nadir rastlanan portal ven anevrizmalı bir olguyu sunuyoruz.

Anahtar Kelimeler: Anevrizma; karaciğer sirozu; hipertansiyon, portal

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Venous aneurysms are less common comparatively with arterial aneurysms and generally develop in peripheral venous structures. Portal venous aneurysm is a rare clinical entity and represents less than 3% of all venous aneurysms.[1] They may be congenital or acquired. Acquired types are generally observed in the presence of cirrhosis and portal hypertension. There are case reports presented as case series.[2] Although, there is not a widely accepted limit for portal vein diameter, portal vein aneurysms may be considered in patients of dilatation exceeding 20 mm.[3] One of the two most common localizations is the main portal vein while the other is the junction of splenic and superior mesenteric vein.[4] In present patient developing cirrhosis due to hepatitis B, a highly enlarged portosys-

temic shunt and aneurysmal portal vein dilatation were detected. The aneurysmal dilatation localized in the junction of the left branch of the portal vein and umbilical vein was defected very rarely among the cases reported in the literature.

CASE REPORT

A female patient aged 39 years applied to our clinic because of chronic hepatitis secondary to hepatitis B virus (HBV). The ultrasonographic (USG) investigation revealed splenomegaly, marked dilatation in the portal vein and a patent umbilical vein. A saccular formation reaching an approximate size of 9 cm was noticeable in the left portal branch. The saccular aneurysm was observed along the portal vein and united with the umbilical vein. Doppler investigation revealed flow within the aneurysmal segment. It was considered as an aneurysm of the portal vein. The abdominal MR angiography demonstrated the aneurysm in the left branch of the portal vein more markedly (Figure 1). A large collateral vascular structure draining into the iliac veins together with the umbilical vein had developed (Figure 2). The patient had no ascites.

FIGURE 1: Image of the portal vein aneurysm exhibiting fusiform dilatation on the left portal branch.

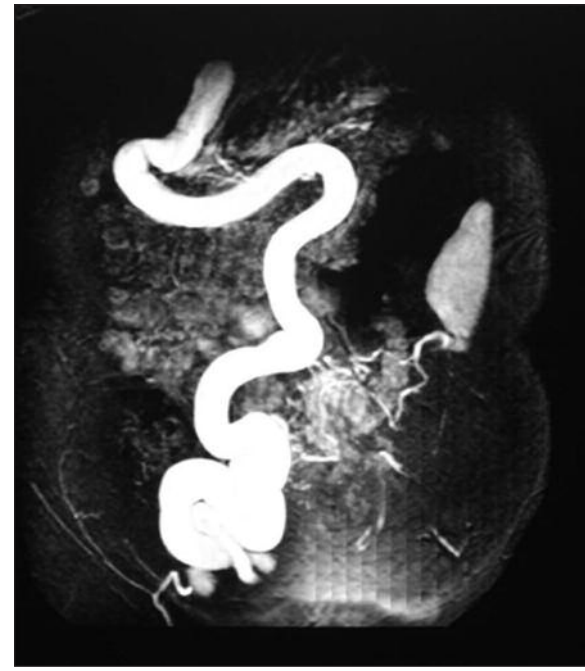

FIGURE 2: Umbilical vein was observed as opened, markedly dilatated and tortuous.

DISCUSSION

The portal vein aneurysm is rarely reported and there are case reports presented as case series in the literature. Approximately 70 cases have been reported.[2] Portal vein aneurysm may be observed at any age and doesn't exhibit any difference between the genders.[5] The mean portal vein diameter is 12 mm in normal individuals and doesn't exceed 15 mm. It may be larger in cirrhotic cases; however it doesn't exceed 19 mm.[6] The fusiform or saccular dilation of the portal vein with the diameter of more than 20 mm is generally accepted as portal vein aneurysm.[7,8] The branches of the portal vein include splenic, superior mesenteric, left gastric, right gastric, paraumbilical and cystic veins. Aneurysm may occur at any level of these branches, however it is most commonly observed at the junction of splenic vein and superior mesenteric vein.[4] In contrast to the arterial aneurysms, the etiology in venous aneurysms is not known. Since the reported cases generally include patients with cirrhosis and portal hypertension, damage or weakening of the vessel wall with concomitant increased intraluminal pressure may be a risk fac-

tor.[7] Our patient showed findings of portal hypertension and also developed large-diameter portosystemic anastomoses. Portal aneurysms with sizes ranging between 3 and 8 cm have been reported in the literature. The size of aneurysm was approximately 9 cm in our case, as one of the largest ones reported.[9] Despite usually being asymptomatic, particularly large-size portal vein aneurysms may cause pain due to compression to adjacent structures, jaundice or gastrointestinal hemorrhage. Thrombosis may develop in aneurysm. Particularly, acute thrombosis of aneurysm may be associated with a high mortality.[10,11] Although the patients with a thrombosed portal vein aneurysm may present acute abdominal pain and other clinical findings, our case was asymptomatic. Portal decompression prevents progression particularly in aneurysms with concomitant portal hypertension.[8,12,13] In our case, the left branch of the aneurismal portal vein went along with the paraumbilical vein and was markedly dilatated. Paraumbilical veins commonly drain into external iliac veins via epigastric vessels.[14] At the same time, paraumbilical veins may be connected to subcutaneous veins on the anterior abdominal wall. In this case, varicose dilations of the subcutaneous veins form *caput medusa* around the umbilicus.[15-17] Detection of portal vein thromboses is important particularly with respect to potential complications by thrombosis. Current technological advances in imaging methods have facilitated the detection of such rare cases.

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