



**Case Report:**

**Portal Vein Aneurysm: Incidental Detection of Uncommon Entity as Cause of Chronic Abdominal Pain**

**Authors**

**Vikas Bhatia**, Senior Resident, Department of Radiodiagnosis,  
**Prashant Panda**, Senior Resident, Department of Medicine,  
**Sanjiv Sharma**, Professor, Department of Radiodiagnosis,  
**Shikha Sood**, Assistant Professor, Department of Radiodiagnosis,  
**Aruna**, Resident, Department of Obstetrics and Gynaecology,  
**Indira Gandhi Medical College, Shimla.**

**Address for Correspondence**

**Dr. Vikas Bhatia,**

Senior Resident,  
Department of Radiodiagnosis,  
Indira Gandhi Medical College,  
Shimla, India.  
E-mail: drvikasbhatia@gmail.com

**Citation**

Bhatia V, Panda P, Sharma S, Sood S, Aruna. Portal Vein Aneurysm: Incidental Detection of Uncommon Entity as Cause of Chronic Abdominal Pain. *Online J Health Allied Scs.* 2013;12(2):20. Available at URL: <http://www.ojhas.org/issue46/2013-2-20.html>

**Open Access Archives**

<http://cogprints.org/view/subjects/OJHAS.html>

<http://openmed.nic.in/view/subjects/ojhas.html>

Submitted: Apr 28, 2013; Accepted: Jul 3, 2013; Published: Aug 25, 2013

**Abstract:** Portal vein aneurysm is an uncommon anomaly. Both congenital and acquired cases are reported. We report a case of idiopathic probably congenital portal vein aneurysm incidentally detected on contrast CT. There was no evidence of any chronic liver disease or portal hypertension in this patient.

**Key Words:** Portal vein; Aneurysm

**Introduction**

Aneurysms of the portal vein are rare. They represent up to 3% of cases of venous aneurysms. They are now diagnosed with increased frequency due to advent of ultrasound and cross sectional imaging. Both congenital and acquired causes of portal vein aneurysm are reported. Although seen in patients with chronic liver disease and portal hypertension, a number of patients are detected incidentally on imaging.

**Case Report:**

A 42 years female presented to the medicine OPD with history of chronic abdominal pain. Her pain was predominantly in epigastric region which was dull in nature with no radiation. Per abdomen and general physical examination were within normal limits. There was no history suggestive of prior trauma or surgery. Her blood tests including liver and renal function tests, complete haemogram and serum amylase were normal.

Ultrasound examination was requested which showed evidence of a cystic lesion with colour flow in the porta hepatis region. Contrast enhanced CT abdomen was requested for characterisation of the lesion.

CECT abdomen showed dilated extra hepatic portal vein with diameter of up to 4cm at the confluence of the superior

mesenteric and splenic vein (Fig 1). It showed contrast enhancement without any thrombus. Intra hepatic portal vein radicles were normal in calibre.

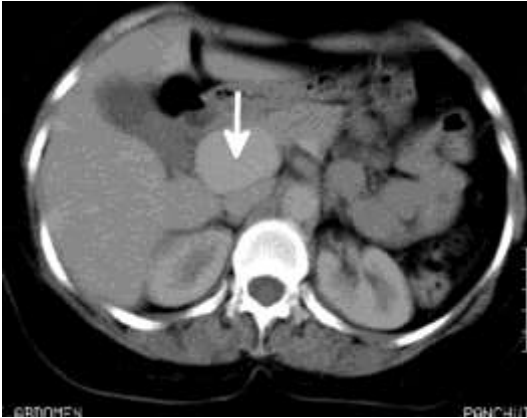
The splenic and superior mesenteric veins (Fig 2) were normal in calibre. Liver showed normal size, outline and enhancement pattern. No evidence of nodularity or focal mass was noted. Spleen was normal in size and outline. No evidence of any collateral veins suggestive of portal hypertension was seen. There was no evidence of any ascites. Pancreas was normal in size, outline and enhancement. No evidence of any other intra-abdominal mass or lymph node seen.

Based on these findings, a diagnosis of idiopathic portal vein aneurysm, probably congenital in origin was made. Patient was managed conservatively and advised follow up.

**Discussion:**

Portal vein aneurysm is an uncommon vascular abnormality which is characterised by dilatation of the portal vein beyond normal limits. It commonly occurs at the junction of the superior mesenteric and splenic veins, or at the hepatic hilum at the bifurcation of the right and left portal veins.[1]

Variations in the diameters of both normal and cirrhotic portal veins are seen, thus an aneurysm of the portal venous system is considered to be present if the vessel diameter is significantly larger in saccular or fusiform fashion than in the remainder of the vessel.[2]



**Fig 1: Axial contrast enhanced CT image showing aneurismal dilation of the portal vein. It is showing homogenous enhancement with no e/o any thrombus. Scanned liver shows normal outline and enhancement**



**Fig 2: Axial CECT image showing e/o portal vein aneurysm (star) with normal calibre splenic vein (red arrow). There is no e/o any dilated collateral vessels or ascites.**

Histologically, there is evidence of thin wall with markedly reduced tunica intima and media.[3] Congenital and acquired aetiologies have been proposed for this anomaly.

Congenital origin is favoured by report of in utero diagnosis of a portal vein aneurysm and also evidence of portal venous system aneurysms in patients with histologically proved normal livers.[4,5] An inherent weakness of the vessel wall is another theory proposed to support a congenital origin.

Acquired origin is suggested by the presence of aneurysms in patients who have portal hypertension, chronic liver disease, necrotizing pancreatitis, and have undergone abdominal trauma or surgery.[2,6]

Most portal venous system aneurysms are asymptomatic. These remain stable in size and do not demonstrate any significant increase in size, although some manifest with nonspecific abdominal pain as a major symptom. Rare complications of portal venous system aneurysms are abdominal pain; thrombosis, portal hypertension, rupture, thromboembolism, compression of the common bile duct and duodenum.[7]

Colour Doppler and helical CT are the imaging modalities of choice to detect this abnormality. Treatment options for the portal aneurysm are controversial. If the aneurysm is found incidentally follow up is usually done as it is expected not to grow significantly. Portacaval shunts, prophylactic surgery or aneurysmorrhaphy are the therapeutic options when aneurysms are growing or associated with complications.[5,6]

#### References:

1. Ohnami Y, Ishida H, Konno K, Naganuma H, Hamashima Y, Zeniya A, et al. Portal vein aneurysm: report of six cases and review of the literature. *Abdom Imaging* 1997; 22:281–286.
2. Ozbek SS, Killi MR, Porbagher MA, Parildar M, Katranci N, Solak A. Portal venous system aneurysms: report of five cases. *J Ultrasound Med.* 1999;18:417–422.
3. Ohnishi K, Nakayama T, Saito M, Nomura F, Koen H, Tamaru J, et al. Aneurysm of the intrahepatic branch of the portal vein. Report of two cases. *Gastroenterology.* 1984;86:169–173.
4. Gallagher DM, Leiman S, Hux CH. In utero diagnosis of a portal vein aneurysm. *J Clin Ultrasound.* 1993;21:147–151.
5. Brock PA, Jordan PH, Barth MH, Rose AG. Portal vein aneurysm: a rare but important vascular condition. *Surgery.* 1997;121:105–108.
6. Fulcher A, Turner M. Aneurysms of the portal vein and superior mesenteric vein. *Abdom Imaging.* 1997;22:287–292.
7. Gallego C, Velasco M, Marcuello P, Tejedor D, De Campo L, Frieria A. Congenital and Acquired Anomalies of the Portal Venous System. *Radio Graphics* 2002;22:141–159.