

*Case Report***A Case of Extra-Hepatic Portal Vein Aneurysm in an Asymptomatic Patient**Anil Joshi¹, Rajani Joshi²¹Prof. and Head of Dept. of Radiology, B.V.D.U. Medical College & Hospital, Sangli²Prof. and Head of Dept. of Anatomy, R.C.S.M. Govt. Medical College & Hospital, Kolhapur, India.

Corresponding Author: Anil Joshi

*Received: 27/05/2015**Revised: 24/06/2015**Accepted: 26/06/2015***ABSTRACT**

Portal vein aneurysms are a rare finding. They represent only 3 % of all aneurysms of the venous system. They could be congenital or acquired in origin. We report a case of extra-hepatic portal vein aneurysm in an asymptomatic patient.

Keywords- Portal vein aneurysm, color Doppler sonography, extra-hepatic, asymptomatic.

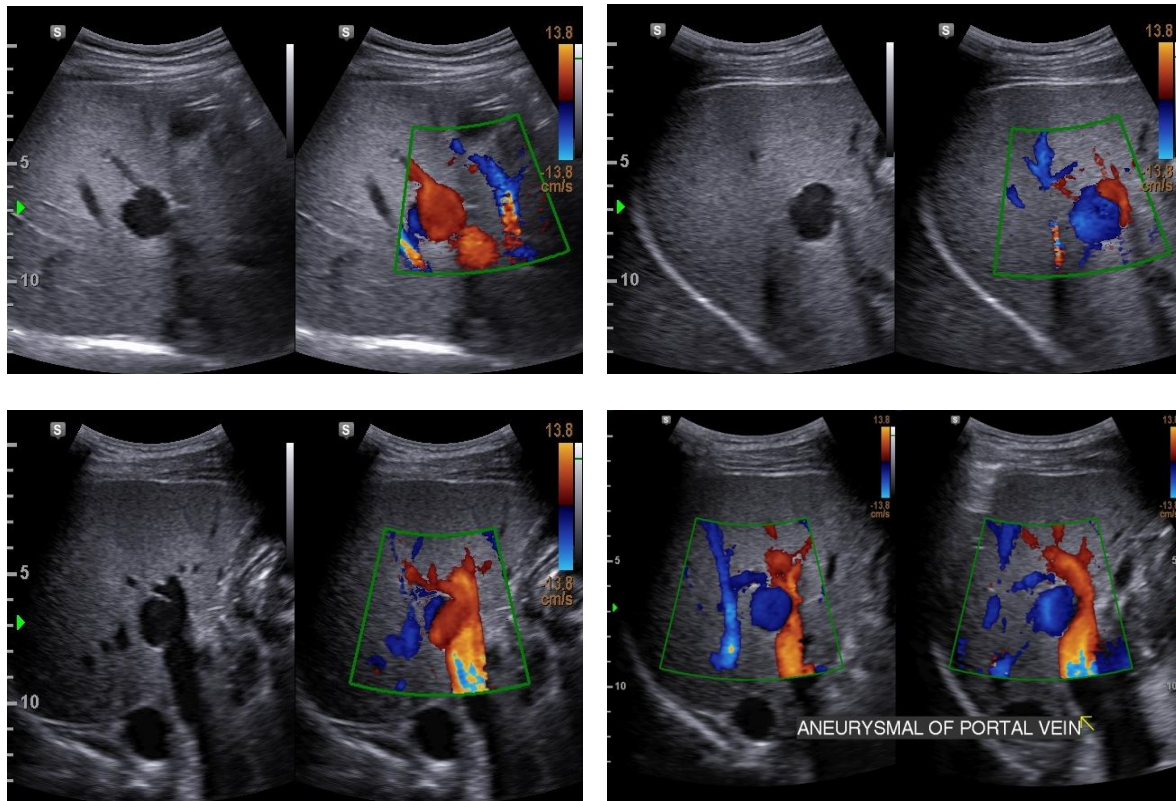
INTRODUCTION

Primary venous aneurysms are much less common compared to arterial aneurysms. However, reported incidence of portal vein aneurysm has increased in recent years due, most likely, to the increasing use of modern non-invasive imaging techniques in clinical practice. Aneurysms of the portal venous system occur mainly at bifurcation sites or at spleen-mesenteric venous confluence and they can be intra-hepatic or extra-hepatic. The rarest location is the splenic, mesenteric and umbilical veins. In our case an incidental extra-hepatic portal vein aneurysm was discovered on routine investigation which was asymptomatic.

OBSERVATIONS

A 42 year old male patient presented with vague chronic abdominal pain. Routine

abdominal sonography was done. It showed saccular, low echogenic, cystic aneurysmal dilatation of portal vein approximately 10 mm. proximal to bifurcation. It was measuring approximately 18 x 20 mm. on longitudinal US image. Ultrasonographically the diameter of portal vein was 2.2 cm. which is usually regarded as aneurysmal. [1,2] Doppler study revealed direct luminal continuity with the portal venous system with turbulence without thrombosis formation. This color flow study demonstrated the presence of blood flow with a non-pulsatile monophasic waveform within the lesion differentiating it from a liver cyst (film 1 - 4). The patient showed no signs of portal hypertension and his liver function tests were normal. Thus we found an extra-hepatic portal vein aneurysm in an asymptomatic patient.



Film 1 – 4: showing portal vein and aneurysm proximal to its bifurcation.

DISCUSSION

Portal venous aneurysms are relatively uncommon venous aneurysms with a reported prevalence of 0.43 % with no difference among patient age and patient sex. A case of main portal vein aneurysm was first reported in 1956 by Barzilai and Kleckner. [3] In that patient the aneurysm ruptured and was diagnosed at autopsy. As in our case, many of these aneurysms have been an incidental findings in patients undergoing routine abdominal sonography for unrelated complaints.

For etiology both congenital and acquired causes have been proposed. Reasons to favour congenital origins are a report of an in- utero diagnosis of portal vein diverticulum [4] and due to an inherent weakness in the venous wall, [5] or a variant branching pattern of portal vein. Embryologically the portal venous system develops from the vitelline and umbilical

veins that drain the intestinal blood of the embryo. It has been proposed that during embryonic development, there is failure of complete regression of the right vitelline vein. The diverticular remnant of the vitelline vein is believed to enlarge, forming a saccular aneurysm of the portal vein later in life. [6-8]

Portal hypertension secondary to cirrhosis or other chronic liver diseases is the most frequently reported cause of acquired portal vein aneurysms. [9] Portal hypertension leads to intimal thickening with compensatory medial hypertrophy. Progressive replacement of the medial hypertrophy by fibrous tissue weakens the tensile strength of the venous wall making it more susceptible to aneurysmal dilatation. [10] Other causes of acquired portal vein aneurysms include necrotizing pancreatitis, abdominal trauma or surgeries, [11-12]

invasion of the portal vein by various malignancies.

The primary presentation of portal vein aneurysm is abdominal pain, followed by incidental detection on imaging, with a minority of patients presenting with gastrointestinal bleeding. Complications of portal vein aneurysm include thrombosis, portal hypertension (due to compression of the main portal vein), rupture, thrombosis and distal embolism, biliary tract obstruction leading to jaundice, Cholestasis, cholelithiasis, compression of the duodenum, inferior vena cava obstruction.

On the whole, portal vein aneurysms are stable and have a low risk of complications with 88% of patients showing no progression of aneurysmal size or complications on subsequent follow up scans. So asymptomatic aneurysms without portal hypertension or cirrhosis are often advised to be managed conservatively, with regular follow-ups of aneurysmal size and monitoring for new symptoms. [13,14]

In our case the portal vein aneurysm was likely to be congenital in origin, as he had no signs of liver disease or portal hypertension. Also there was no history of trauma or abdominal surgery.

CONCLUSION

Extra-hepatic portal vein aneurysms are rare occurrence but one that is becoming more widely recognized due to increased use of modern non-invasive imaging modalities. The color Doppler ultrasonography is the most helpful diagnostic investigation. The knowledge of clinical aspects and imaging characteristics of portal venous system aneurysms is helpful in their diagnosis and further management of their complications.

REFERENCES

1. Mungan Z., Pinarbasi B., Bakir B., et al . Congenital portal vein aneurysm associated with peliosis hepatitis and

- intestinal lymphangiectasia. *Gastroenterology Research and Practice*. 2009;2009:479264.
2. Lall P., Potineni L., Dosluoglu H.H. Complete spontaneous regression of an extrahepatic portal vein aneurysm. *Journal of Vascular Surgery*. 2011; 53(1):206–208.
3. Barzilai R., Kleckner M.S. Hemocholecyst following ruptured aneurysm of portal vein; report of a case. *AMA Archives of Surgery*. 1956;72(4):725–727.
4. Gallagher D.M., Leiman S., Hux C.H. In utero diagnosis of a portal vein aneurysm. *Journal of Clinical Ultrasound*. 1993;21(2):147–151.
5. Fukui H., Kashiwagi T., Kimura K., et al. Portal vein aneurysm demonstrated by blood pool SPECT. *Clinical Nuclear Medicine*. 1992;17(11):871–873.
6. Atasoy K.C., Fitoz S., Akyar G., et al. Aneurysms of the portal venous system. Gray-scale and color Doppler ultrasonographic findings with CT and MRI correlation. *Clinical Imaging*. 1998;22(6):414–417.
7. Marks C. Surgical implications of portal venous system malformation. *Annals of the Royal College of Surgeons of England*. 1974;55(6):299–306.
8. Gallego C., Velasco M., Marcuello P., et al. Congenital and acquired anomalies of the portal venous system. *Radiographics*. 2002;22(1):141–159.
9. López-Machado E., Mallorquín-Jiménez F., Medina-Benítez A., et al. Aneurysms of the portal venous system: ultrasonography and CT findings. *European Journal of Radiology*. 1998;26(2):210–214.
10. Leonsins A.J., Siew S. Fusiform aneurysmal dilatation of the portal vein. *Postgraduate Medical Journal*. 1960;36:570–574
11. Francesco F., Gruttadauria S., Caruso S., et al. Huge extrahepatic portal vein aneurysm as a late complication of liver transplantation. *World Journal of Hepatology*. 2010;2(5):201–202.]

12. Tsukuda S., Sugimoto E., Watabe T., et al. A case of extrahepatic portal vein aneurysm with massive thrombosis: diagnosis with reconstruction images from helical CT scans. Radiation Medicine. 1998;16(4):301–303.
13. Koc Z., Oguzkurt L., Uluhan S. Portal venous system aneurysms: imaging, clinical findings, and a possible new etiologic factor. American Journal of Roentgenology. 2007;189(5):1023–1030.
14. Sfyroeras G.S., Antoniou G.A., Drakou A.A., et al. Visceral venous aneurysms: clinical presentation, natural history and their management: a systematic review. European Journal of Vascular and Endovascular Surgery. 2009;38 (4): 498–505.

How to cite this article: Joshi A, Joshi R. A case of extra-hepatic portal vein aneurysm in an asymptomatic patient. Int J Health Sci Res. 2015; 5(7):448-451.

International Journal of Health Sciences & Research (IJHSR)

Publish your work in this journal

The International Journal of Health Sciences & Research is a multidisciplinary indexed open access double-blind peer-reviewed international journal that publishes original research articles from all areas of health sciences and allied branches. This monthly journal is characterised by rapid publication of reviews, original research and case reports across all the fields of health sciences. The details of journal are available on its official website (www.ijhsr.org).

Submit your manuscript by email: editor.ijhsr@gmail.com OR editor.ijhsr@yahoo.com