Asian Journal of Surgery (2019) 42, 708–710

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LETTER TO EDITOR

Portal annular pancreas: A case report

KEYWORDS
Portal annular pancreas;
Case report;
CT;
Pancreas anomaly

To the editor,

We want to share a uncommon case here. A 49-year-old woman, who has a 5 year history of hypertension, presented with diarrhea for 4 months and pain in middle and upper abdomen for 1 week. Serum amylase (39 U/L) and serum lipase (20.4 U/L) were detected normal. Two smooth sessile polyps (maximum diameter <0.5 cm) were found and removed with biopsy forceps on colonoscopy. On greater curvature side of upper gastric body, a smooth sessile polyp (maximum diameter <0.5 cm) was found and removed with biopsy forceps on gastroscopy, meanwhile, reflux esophagitis (A grade) and chronic non-atrophic gastritis were diagnosed. Furthermore, unenhanced and contrast material-enhanced computed tomography (CT) of middle and upper abdomen was requested, and a kind of portal vein variation inside the pancreas, which called portal annular pancreas (PAP), was noticed. Direct relation of the variation to disease or symptom has not been found.

CT images of portal vein phase (Fig. 1) revealed that portal vein entered into pancreas at level about left renal vein's superior border. Splenic vein divided from portal vein at level about left renal vein's inferior border and was obliquely upward. Splenic vein was partially inside the pancreas. Respectively, diameters of portal vein, splenic vein and superior mesenteric vein were about 1.16 cm, 0.83 cm and 1.05 cm.

Development of the portal venous system occurs in 4-week embryo. Developing hepatic sinusoids link to both vitelline veins and then tap the umbilical vein at day 32. Each vitelline vein is then interrupted by the sinusoidal labyrinth to a distal segment extending from yolk sac to liver, which is finally converted into portal vein and to a proximal segment extending from liver to heart, in which right proximal stem represents hepatic vein, whereas left proximal and right distal vitelline veins atrophy and disappear.[1–3] Development of pancreas occurs concurrently with portal venous system, as ventral pancreatic bud rotates clockwise around the duodenum to meet its dorsal counterpart, with which it then fuses together. This normal development places the portal vein posterior to both pancreas and duodenum.[2,4]

Two different hypotheses of PAP have been discussed.[4] It might caused by abnormal pancreas fusion, as dorsal pancreatic bud and hypertrophied ventral pancreatic bud fused abnormally surrounding the portal vein. Portal vein variation might also play a role. PAP can have pancreatic duct variation and PAP is classified partially depending on the topography of the main pancreatic duct. The anatomic variation can interfere surgical process. And it has been found that PAP is associated with operative complications in resections involving the head of the pancreas. The postoperative pancreatic fistula (POPF) rate in patients with PAP (12 pancreaticoduodenectomies and 3 distal pancreatectomies) was 46.7%.[4,5] Although PAP only have a prevalence from 1.1% to 3.4%, we should pay attention to it.[4]

https://doi.org/10.1016/j.asjsur.2019.02.001

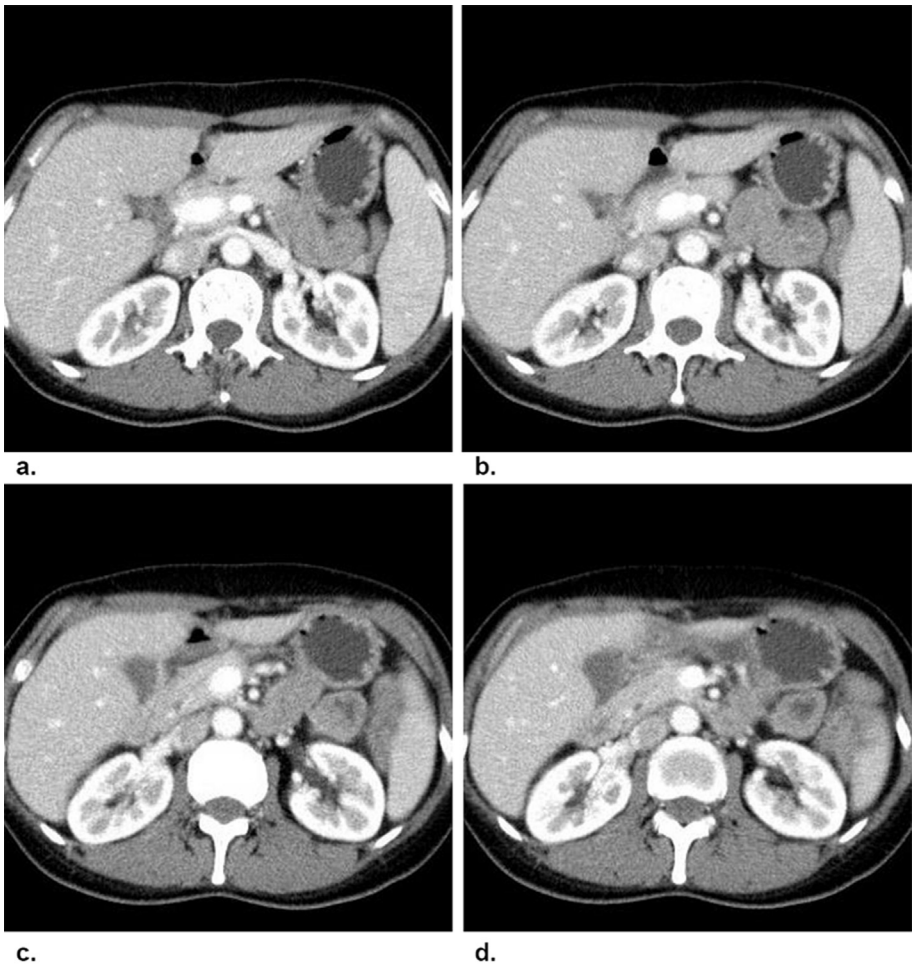

Figure 1 **(a—d)** Contrast material—enhanced CT images of portal vein phase.

Supplementary video related to this article can be found at https://doi.org/10.1016/j.asjsur.2019.02.001.

Conflicts of interest

All authors declare there is no conflict of interest.

Funding

This study was funded by The Science Fund founded by the First Affiliated Hospital of Xiamen University for Young Scholars (Project Number: XYY2016011; Recipient: Jiaxuan Qin).

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.asjsur.2019.02.001.

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29 January 2019