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ABDOMINAL IMAGING

LETTER TO THE EDITOR

Less known but important complications and associated anomalies of Abernethy malformation

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Dear Editor,

We read with interest the article "Abernethy malformation: a comprehensive review" by Kumar et al.[1] published in *Diagnostic and Interventional Radiology*. We congratulate the authors for their comprehensive and instructive article on this unusual anomaly. Abernethy malformation is an extremely rare anomaly characterized by portal venous blood passing into the systemic circulation bypassing the liver.[1,2] Abernethy malformation can cause pulmonary hypertension, hepatic encephalopathy, hepatopulmonary syndrome, and heart failure.[2] Moreover, Abernethy malformation is associated with multiple congenital anomalies (such as cardiovascular and skeletal anomalies) and acquired complications (such as benign and malignant primary hepatic tumors). Therefore, it is essential to recognize this anomaly and follow up regarding these complications.[1,2] Although complications and abnormalities accompanying Abernethy malformation are described in detail in Kumar et al.'s[1] article, we would like to make a contribution to this article.

According to the pathophysiology, Abernethy malformation can also cause the following clinical consequences: the decrease in hepatic glucose uptake may increase the blood's glucose level and cause hyperinsulinism and, consequently, hypoglycemia attacks, especially in the pediatric population.[3,4] Moreover, there are accompanying osteoporosis cases in patients with Abernethy malformation, primarily due to liver enzymes' role in vitamin D metabolism.[3,5] In addition to the anomalies related to Abernethy malformation stated by Kumar et al.[1] it has been shown in the literature that visceral arterial and venous aneurysms can be found (Figure 1).[2,6] The awareness of this unusual entity is crucial for the prevention and close monitoring of possible complications, such as abdominal hemorrhage.

KEYWORDS
Cirrhosis, congenital, diagnosis, liver, portal hypertension, portal vein

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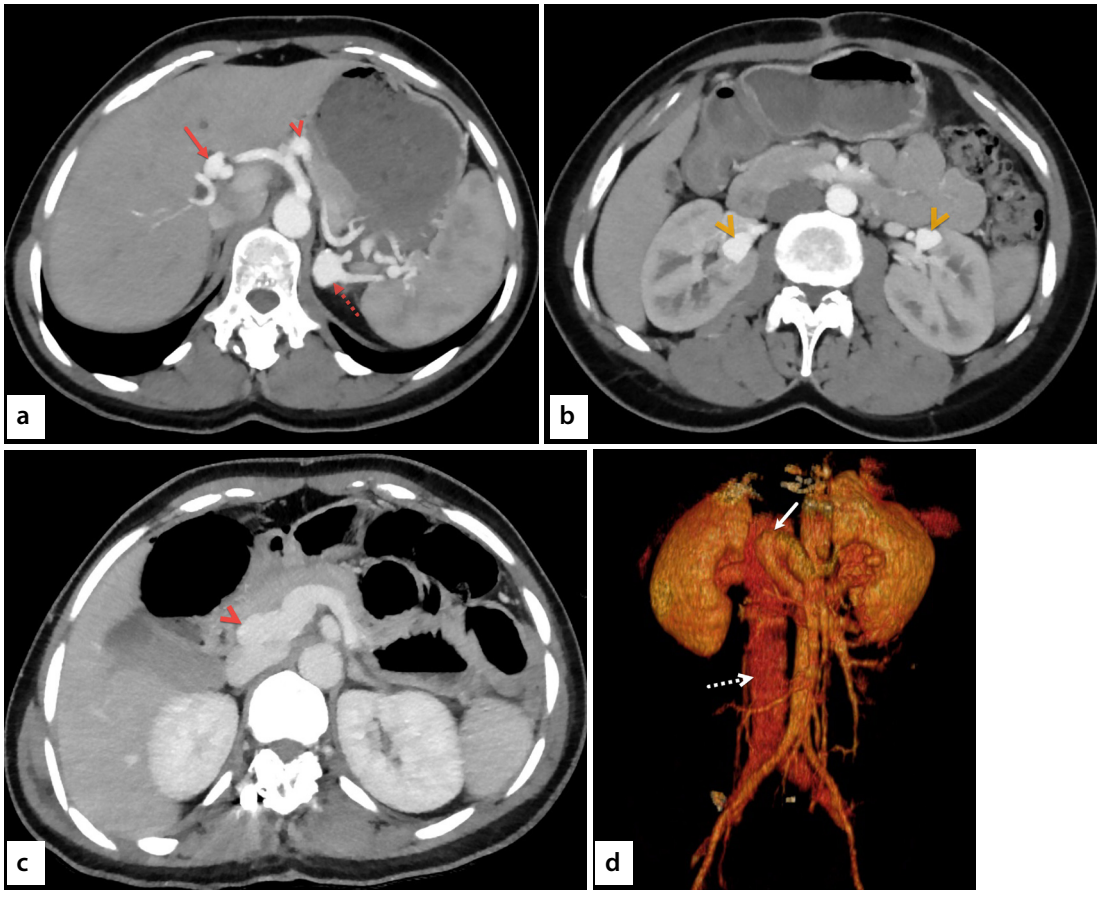

Figure 1. A 29-year-old female was presented to the emergency room with a stab injury. In her medical history, she had scoliosis surgery 12 years ago. Dynamic contrast-enhanced abdominal computed tomography (CT) was obtained. **(a, b)** Axial abdominal CT angiography images show multiple visceral arterial aneurysms, including hepatic artery (red arrow), proximal part of the splenic artery (red arrowhead), distal part of the splenic artery (dashed red arrow), and bilateral renal arteries (orange arrowheads). **(c)** Axial contrast-enhanced abdominal CT image in the portal venous phase shows the drainage of portal vein into the vena cava inferior (arrowhead). **(d)** Three-dimensional volumetric image of the abdominal CT demonstrates the drainage of portal vein into the vena cava inferior (arrow) and enlargement of the vena cava inferior (dashed arrow).

Conflict of interest disclosure

The authors declared no conflicts of interest.

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