Case 11495

Duplication of the inferior vena cava in oncologic patient

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Patient
male, 84 year(s)

CLINICAL HISTORY

The patient arrived at the radiology department with the aim to undergo MSCT of abdomen and pelvis because of suspected neoplastic process. He had a history of weight loss during 2 months and complained of constipations and abdominal pain, and as a next step was hospitalized in the department of surgery.

IMAGING FINDINGS

MSCT was performed with intravenous bolus injection of 100 ml of iodinated contrast (3 ml/s) and parallel pneumocolon. There were no signs of colonic obstruction found. Axial scans showed a tumour of the pancreatic body with obstructive dilatation of the main pancreatic duct and side branches distal to the carcinoma, formation of small intrapancreatic pseudocysts, metastases to liver and spleen, simple bilateral renal cysts and left-sided hydroureteronephrosis caused by the renal calculus located in the left ureteral orifice. Also peripancreatic fat infiltration and lymph nodes were identified. While searching for retroperitoneal lymph nodes in paraaortic region an ovoid structure was found in axial planes with opacification during venous phase slightly lower than of inferior vena cava. Sagittal and coronal reconstructions were made and showed a tubular structure taking its origin from the left common iliac vein and ending at the left renal vein.

DISCUSSION

Congenital anomalies of inferior vena cava (IVC) can have important clinical implications. Awareness of the different anomalies of the IVC is necessary for radiologists to avoid the diagnostic pitfalls. Anomalies of IVC and its tributaries

have been known to anatomists since 1793, when Abernethy [1] described a congenital mesocaval shunt and azygos continuation of the IVC in a 10-month-old infant with polysplenia and dextrocardia. During the development of cross-sectional imaging, congenital anomalies of the IVC and its tributaries have become more frequently encountered [2]. Vascular structures can be differentiated very well by using computed tomography with intravenous administration of contrast material. But the use of contrast material can sometimes be contraindicated or a radiologist can find low or no contrast in veins during arterial phase due to the poor haemodynamics. In addition, the opacification difference between right and left inferior venae cavae in present patient was the result of chronic venous insufficiency of the lower extremities more expressed on the left side. Duplication of the IVC results from persistence of both supracardinal veins. The prevalence is 0.2%–3% [3]. The left IVC typically ends at the left renal vein, which crosses anterior to the aorta in the normal fashion to join the right IVC. There can be significant asymmetry in the sizes of the left and right veins. Double IVC should be suspected in cases of recurrent pulmonary embolism following placement of an IVC filter. The diagnostic pitfall in oncologic patients is misdiagnosis of the aberrant vessel as lymphadenopathy [4].

References

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