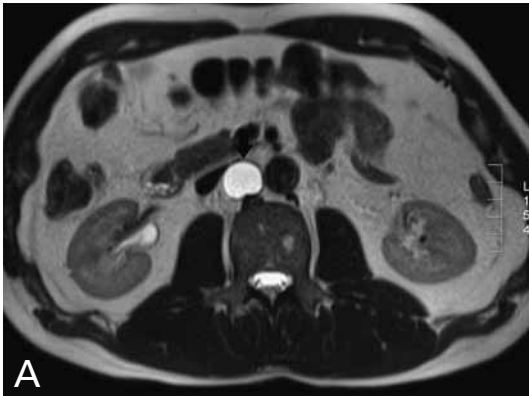


IMAGES IN CLINICAL RADIOLOGY



Dilated cisterna chyli

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A 46-year-old man was referred to our department because of chronic low back pain. A magnetic resonance (MR) examination of the spine revealed bilateral spondylolysis at the level of the lumbar vertebra L4, with associated anterolisthesis as well as degenerative disk disease at L4-L5. Additionally an oval-shaped hypointense structure was seen in the prevertebral space extending from the L1-L2 to L2-L3 level (arrows) on sagittal T1-weighted MR imaging (Fig. A). Axial T2-weighted MR imaging with a HASTE sequence showed a well delineated structure (arrow) adjacent and to the right of the abdominal aorta (Fig. B). The location, shape and fluid content were consistent with a focal dilatation of the cisterna chyli. Conservative therapy for low back pain was initiated. Because of the benign nature of the prevertebral structure, no further therapy was required.

Comment

The cisterna chyli (CC) consists of a focal dilatation of the lymphatic channels that lies in the prevertebral space in a retrocrural position, usually at the L1-L2 vertebral level. It may – however – extend in a craniocaudal direction as far superior as T10 and as far inferior as L4. The CC receives lymphatic fluid from two lumbar lymphatic trunks draining the lower extremities and one intestinal trunk. The latter acts as a conduit for the lipid products of digestion. In the cephalad direction, it continues as the thoracic duct. There is large variation in the morphological appearance of the lymphatic channels at the thoracolumbar level. Therefore, the more descriptive term “abdominal confluence of the lymphatic trunks” or “receptaculum chyli” may be etymologically more correct than the term “cisterna chyli.” The CC is identified in 20% at autopsy, whereas lymphangiographic studies demonstrate the structure in 52% of patients. The presence of a visible CC (having a diameter of 5 mm or more) at cross-sectional imaging is less frequent. Previous studies showed a CC in up to 16,1 % of abdominal computed tomography (CT) examinations and in 15 % of abdominal MR examinations. The majority of these lesions show CT attenuation values of less than 15 Hounsfield units (HU). Twenty percent of the CC show CT densities of 15 HU and higher, simulating retrocrural adenopathy. The depiction of the fluid content on fluid-sensitive MR pulse sequences allows correct characterization of the structure. The morphology of the lesion may vary from a single straight or sausage-shaped tube to a focal round collection. Some lesions –however- do present as multiple parallel or converging tubes, tortuous tubes, or focal plexuses. There is no substantial enhancement on dynamic imaging obtained within 5 minutes after intravenous injection of contrast medium. Delayed images may show enhancement of the cistern lumen. PET-CT shows a low metabolic activity.

In conclusion, the radiologist should be aware of the imaging appearance of a CC. The typical prevertebral retrocrural location at the thoracolumbar junction and the fluid content are the clues to the correct identification, avoiding misinterpretation of this normal structure as an enlarged retrocrural lymph node or other retroperitoneal soft tissue mass.

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