

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

### Pediatric Radiology Quiz – Case 4

A 4-year-old girl presented to the Emergency Department of our hospital with worsening abdominal pain and distention. The girl had visited twice during the previous week the emergency departments of other hospitals, where her symptoms were attributed to constipation and treated with enema. The abdomen X-ray showed few small atypical air-fluid levels of small intestine (fig. 1) and the girl was referred for abdomen ultrasound. The patient's abdomen was distended and sensitive during the ultrasound (US) exam that revealed a huge anechoic, loculated intra-abdominal mass, with septations that displaced downwards the urinary bladder (figures 2a, b, c). Subsequently, the patient was referred to our Computed Tomography (CT) Department. Contrast enhanced CT (CECT) was performed, that showed a huge well-defined fluid-filled cystic mass with septations, that seemed to arise from the mesentery and replaced smoothly the adjacent structures. No calcifications were noticed and the density of the cystic fluid was indicative of serum (figure 3a, b). Radiologic differential diagnosis was suggestive of mesenteric lymphatic malformations. Surgical excision and histopathology was consistent with the radiologic diagnosis.



**Figure 1.** Abdomen X-ray: Few atypical air-fluid levels of small intestine at the right upper quadrant. No fecal content is observed in the descending colon as well as in the lower pelvis area.

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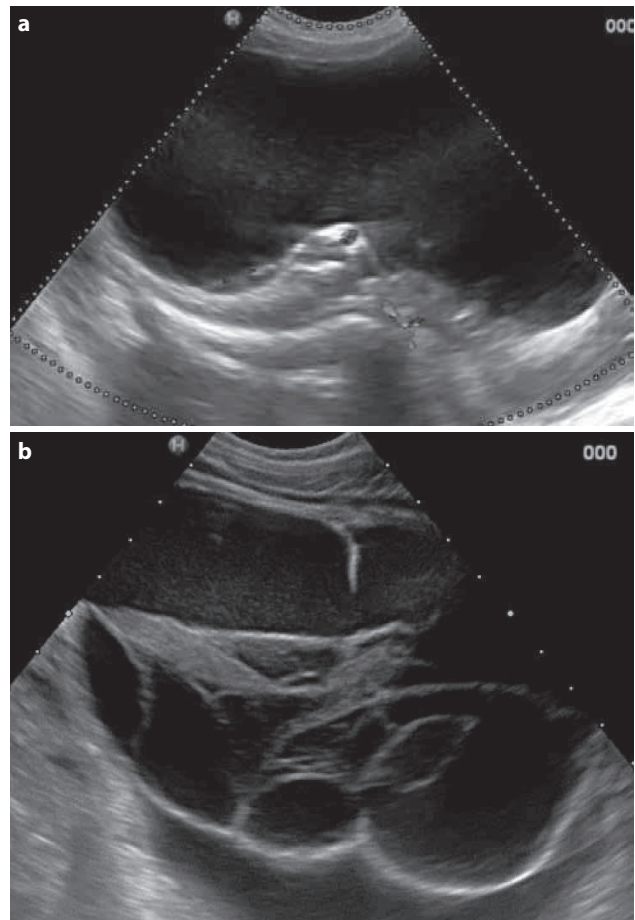
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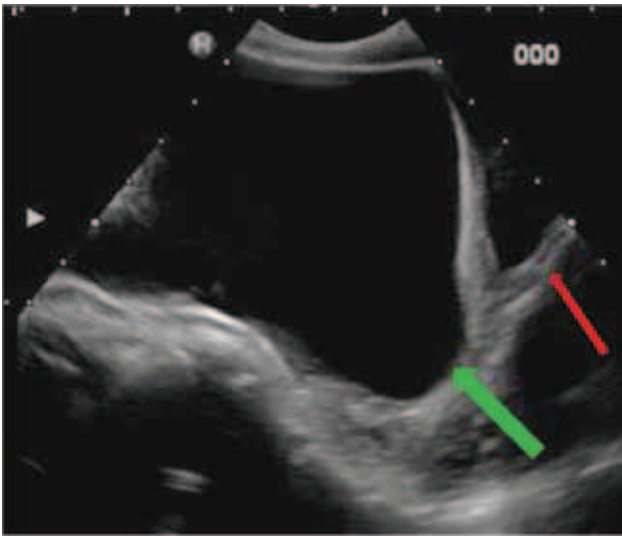
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#### Comment

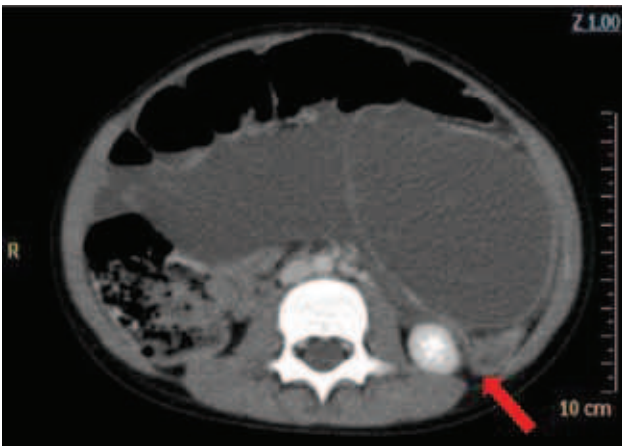
*Mesenteric lymphatic malformations (mesenteric cyst, omental cyst, mesenteric lymphangioma) refer to proliferation of lymphatic*



**Figure 2a, b.** Abdomen ultrasonograph: (a) Axial view showing a cystic lesion that occupies the peritoneal space and (b) sagittal view in the left lumbar region showing a multiloculated cystic lesion with internal septa.

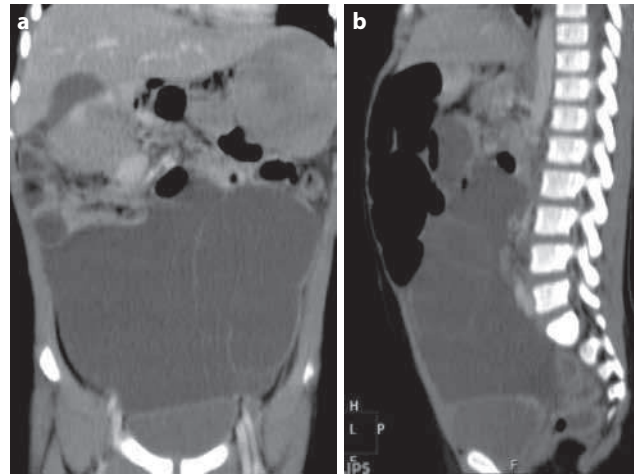


**Figure 2c.** Abdomen ultrasonograph (US): Sagittal view of lower pelvis that shows a cystic lesion (green arrow) displacing downwards the urinary bladder (red arrow).



**Figure 3a.** Abdomen contrast enhanced computed tomography (CECT): Axial view that shows a large peritoneal cystic mass with serous fluid content and internal septa displacing the adjacent structures, e.g. the descending colon and the left kidney (red arrow).

*tissue that fails to communicate with the central lymphatic system, arising from the mesentery. It is a rare pediatric pathology (about 1 in 20.000 pediatric hospital admissions). Their most frequent*



**Figure 3b.** Abdomen contrast enhanced computed tomography (CECT): (a) Coronal and (b) sagittal view that shows the occupation of peritoneal cavity by the large mass that smoothly displaces the adjacent structures.

*location is neck and axillae (95%); however, they can be observed in the mediastinum, the omentum, the mesentery and the extremities. Their size varies from few mm to 40 cm. They can be uni- or multilocular, well defined cystic mass with or without septations and fine calcifications. Their fluid composition may be serous, chylous or hemorrhagic. Patients are commonly asymptomatic or may present with acute abdomen symptoms (due to bowel obstruction, hemorrhage, volvulus, rupture, infection or torsion), depending on the size, location and mass effect on the adjacent abdominal structures. The top differential diagnosis includes ovarian cystic masses, duplication cysts. The recommended imaging tools are US and CECT.*

**References**

RANGANATH SH, LEE EY, EISENBERG RL. Focal cystic abdominal masses in pediatric patients. *AJR Am J Roentgenol* 2012, 199:W1–W16

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***Diagnosis: Mesenteric lymphatic malformations.***

