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IMAGING IN INTENSIVE CARE MEDICINE

Pneumatosis intestinalis and fatal portosystemic air emboli

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A 3-year-old male with recurrent retinoblastoma presented to our Pediatric Intensive Care Unit with respiratory failure and hypotension after a new onset seizure with reintroduction of chemotherapy. He was intubated, and he received fluid bolus, antibiotics and inotropic support for hypotensive shock. On admission, his heart rate was 92 beats per minute, and blood pressure was 85/37 mmHg. He had a metabolic acidosis (pH 7.29, base deficit −10 mEq/L, anion gap 16 mEq/L). After 48 h of reasonable stability, he developed sudden abdominal distention with hypotension and severe lactic acidosis. Abdominal X-ray and ultrasonography findings were

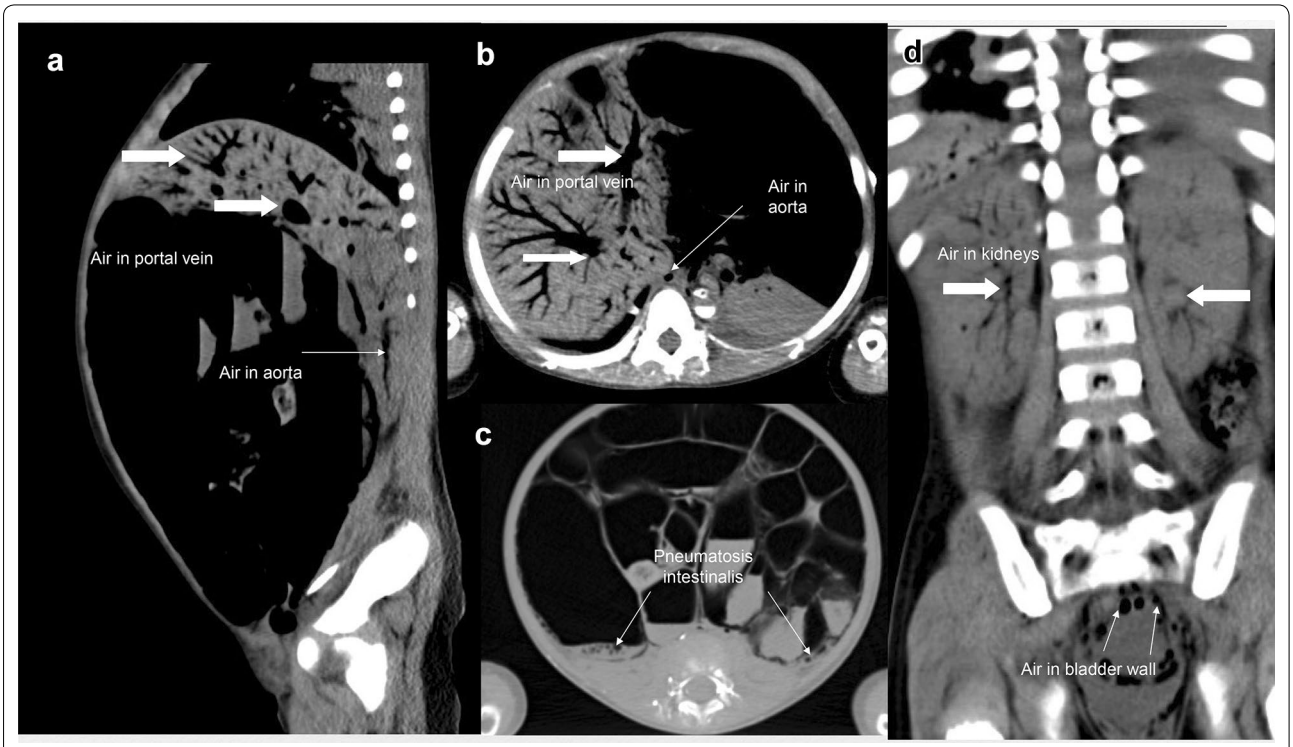

Fig. 1 **a**, **b** Sagittal and axial slices showing air in portal vein and abdominal aorta. **c** Axial slice showing pneumatosis intestinalis. **d** Axial slice showing air in kidneys and bladder wall

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inconclusive. Computed tomography (Fig. 1) revealed pneumatosis intestinalis and massive air in portal system suggesting necrotizing enterocolitis. Air was also visible in kidneys, bladder, femoral arteries and abdominal aorta. Patient expired shortly due to decompensated shock before surgery could be undertaken. Portosystemic air emboli are a rare but mortal complication in patients with pneumatosis intestinalis. Echocardiography had not revealed patent foramen ovale or structural heart defects before admission. We think portosystemic emboli might have occurred through hepatic sinusoids, during the low cardiac output stage.

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