

IMAGES IN EMERGENCY MEDICINE

Abdominal

Woman with abdominal distension and cardiac arrest

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A 59-year-old woman with coronary artery disease, stage 4 kidney disease, and a prior hysterectomy was brought in by ambulance for abdominal pain and vomiting. On arrival, she had a cardiac arrest. The physical examination revealed an unprotected airway requiring intubation, pulseless electrical activity, and an obese, distended abdomen. Return of spontaneous circulation (ROSC) was obtained; however, she was difficult to oxygenate and ventilate resulting in additional cardiac arrests. An orogastric tube was placed without improvement in the abdominal distension. After the final ROSC, a chest radiograph (Figure 1) was obtained that displayed pneumoperitoneum and markedly reduced lung volumes.

DIAGNOSIS**Abdominal compartment syndrome**

The authors conclude that the patient suffered a cardiac arrest secondary to a bowel perforation and subsequent abdominal compartment syndrome (ACS). The patient received antibiotics, fluids, vasopressors, and underwent emergent abdominal decompression and total colectomy. Unfortunately, she died on hospital day 3.

ACS is defined as an intra-abdominal pressure >20 mmHg with end-organ damage. Management includes surgical decompression (SD). If identified before progressing to ACS, intra-abdominal hypertension (IAH) can be managed with non-SD procedures.¹ Although SD can immediately improve organ dysfunction, 1 cohort of 33 patients with ACS requiring SD had a 36% 28-day mortality rate and a 50% 1-year mortality rate.² Approximately 50% of patients require intensive care

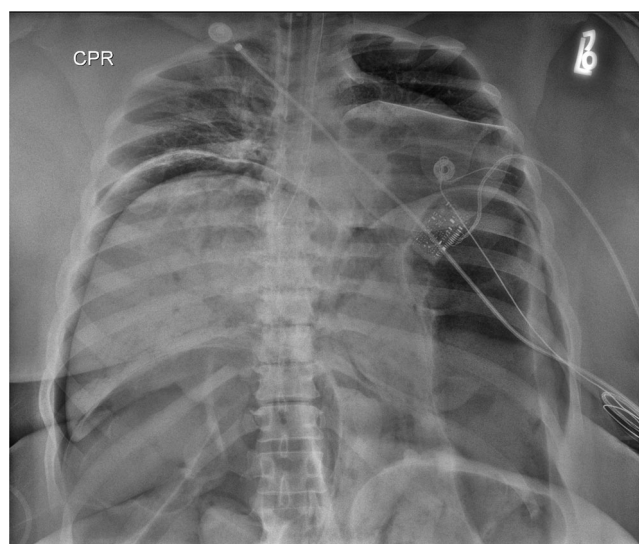


FIGURE 1 Bedside anteroposterior chest radiograph displaying distended loops of bowel and pneumoperitoneum. Lung volumes are severely reduced as a result of abdominal distension. The presence of air in the hepatic ducts is also noted. The “CPR” annotation in the upper left corner of the figure indicates the radiograph was obtained in the cardiopulmonary resuscitation (CPR) room of the emergency department

unit admission.³ Given the high mortality rate, early identification and management of IAH before progression to ACS is time sensitive. Therefore, emergency physicians must be aware of this pathology and this atypical cause of cardiac arrest.

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