

Massive Pneumoperitoneum

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CASE PRESENTATION

A 72-year-old man with a past medical history of pancreatic adenocarcinoma status post biliary and duodenal stent placement presented to the emergency department for one week of cramping abdominal pain in the setting of a surveillance abdominal/pelvis computed tomography (CT) scan done two days prior to admission that showed massive pneumoperitoneum (Figure 1). The patient felt bloated but otherwise had no complaints on presentation. His physical exam was significant for marked abdominal distension with mild diffuse tenderness on palpation, normal bowel sounds, and no peritoneal findings of guarding or rebound. Given concern for perforated viscus causing pneumoperitoneum, he was started on intravenous antibiotics and antifungal therapy. Repeat CT scan on admission demonstrated patent biliary and duodenal stents and no definite source of perforation. The patient remained hemodynamically stable throughout his hospitalization; he continued to have regular bowel movements daily and eventually tolerated a diet. His abdominal distension and pain gradually improved without any surgical intervention, and he was discharged home six days after admission to complete 7 days of oral fluconazole, levofloxacin, and metronidazole. It was thought that this

patient most likely had a perforated viscus that sealed off. A CT scan two months later showed complete resolution of the pneumoperitoneum.

DISCUSSION

Pneumoperitoneum is caused by perforated intra-abdominal viscus in about 90% of cases, often requiring acute laparotomy/laparoscopy for source control and intravenous antibiotics for 4-8 days to prevent contamination of the peritoneal cavity.¹ However, there are reported cases of pneumoperitoneum without peritonitis that resolve with conservative treatment.² These cases of “spontaneous” pneumoperitoneum illustrate the importance of recognizing peritoneal signs and deferring surgical intervention for those who would otherwise have a benign clinical course.

REFERENCES

1. Sawyer RG, Claridge JA, Nathens AB, et al. Trial of short-course antimicrobial therapy for intraabdominal infection. *N Engl J Med* 2015;372(21):1996–2005.
2. Williams NM, Watkin DF. Spontaneous pneumoperitoneum and other nonsurgical causes of intraperitoneal free gas. *Postgraduate Medical Journal* 1997;73(863):531–7.

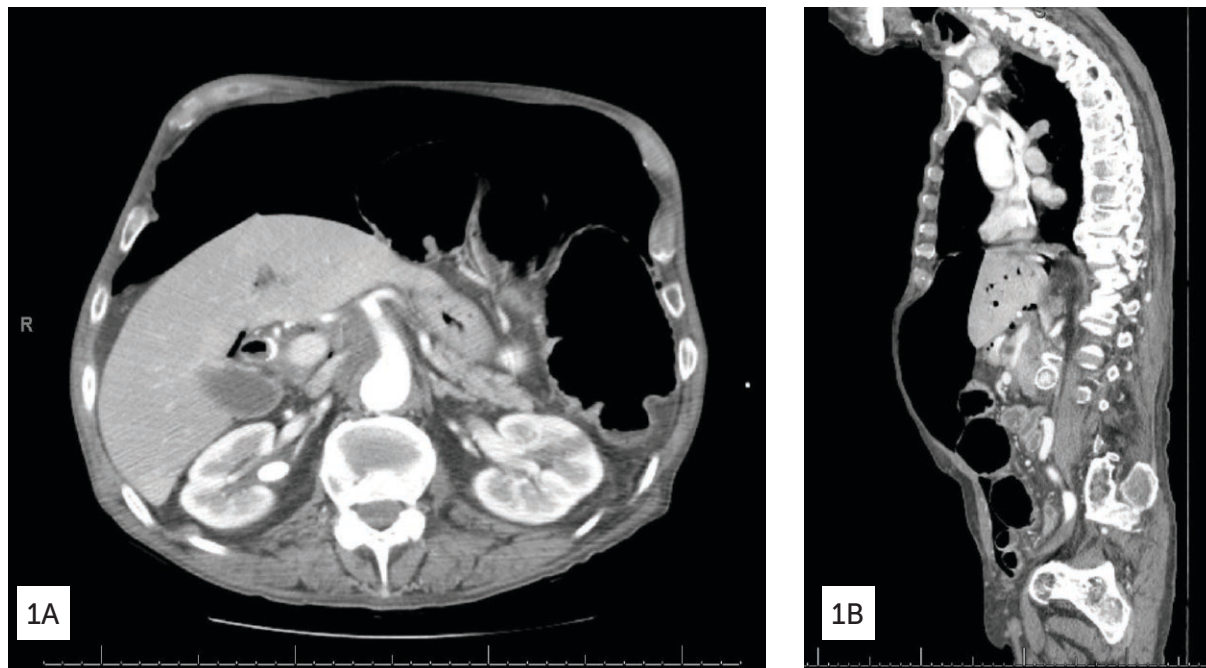


Figure 1. CT abdomen/pelvis with contrast in the axial (1A) and sagittal plane (1B) showing massive pneumoperitoneum.