Conservative treatment of nonresolving pneumoperitoneum after endoscopic procedures, by computed tomography (CT)-guided needle decompression

An 83-year-old man presented for endoscopic ultrasound (EUS) evaluation of a gastric nodule with high grade dysplasia. The patient opted to undergo endoscopic resection of the lesion.

EUS revealed a 10-mm mucosal antral lesion which was removed using the endoscopic mucosal resection (EMR) with cap technique. An incidental hypoechoic lesion of size 10 mm × 10 mm in the left lobe of the liver was sampled by fine-needle aspiration (FNA) × 3.

Following the procedure, the patient complained of abdominal pain, distension, and nausea. An abdominal obstructive series revealed a large pneumoperitoneum. The patient was started on intravenous fluids and antibiotics, and no oral intake was allowed. An upper gastrointestinal series showed no extravasation of contrast. Due to his comorbidities, conservative management was continued. On post-procedure day 3, a CT scan again revealed a large persistent pneumoperitoneum without extravasation of contrast, and on post-procedure day 5, the patient's abdominal discomfort was unchanged. As the patient was unsuitable for exploratory laparotomy, it was decided to attempt abdominal decompression using a CT-guided percutaneous catheter. A 6-Fr catheter was advanced into the pneumoperitoneum through the anterior wall of the abdomen, until no residual free air was visualized under CT guidance (**Fig. 1**). The patient's abdominal discomfort resolved immediately and he remained pain-free. Follow-up abdominal series showed no free air. He quickly advanced to a general diet, and was discharged home.

Pneumoperitoneum is the result of a ruptured hollow viscus and an indication for immediate surgical repair in more than 90 % of cases [1]. However, in the remaining cases immediate surgical repair might not be required [2]. The avoidance of laparotomy in nonsurgical pneumoperitoneum has been described [3]. Recognition and utilization of alternative treatment options such as CT-guided needle decompression of intra-abdominal free air may prove useful in those patients who are otherwise stable, but whose pneumoperitoneum does not appear to be spontaneously resolving.

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S. Patel[1], G. L. Chang[2], R. Messersmith[3], K. D. Chi[2]

[1] Department of Internal Medicine, Lutheran General Hospital, Park Ridge, Illinois, USA

[2] Division of Gastroenterology, Lutheran General Hospital, Park Ridge, Illinois, USA

[3] Department of Interventional Radiology, Lutheran General Hospital, Park Ridge, Illinois, USA

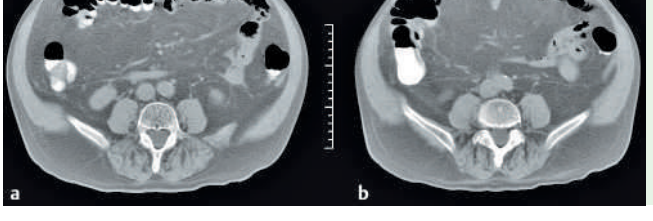

Fig. 1 **a** Computed tomography (CT)-guided needle decompression procedure for symptomatic pneumoperitoneum. **b** Appearance immediately post-procedure, with resolution of symptoms.

References

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Corresponding author

K. D. Chi, MD
Division of Gastroenterology
Lutheran General Hospital
1775 Dempster Street
Park Ridge, IL 60068, USA
Fax: +1-847-677-1233
kenchi@gmail.com