

Two cases of cervical emphysema after colonoscopy

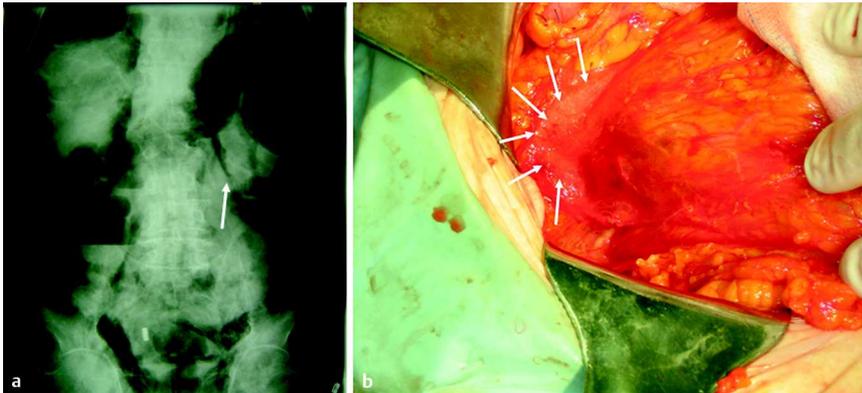


Fig. 1 First patient. Abdominal radiograph discloses bilateral presence of air along the borders of the iliopsoas muscles (white arrows), which is highly suggestive for the presence of air into the retroperitoneal space. **b** Following mobilization of the hepatic flexure, air trapped in the retroperitoneum forming multiple characteristic bubbles was disclosed (white arrows).

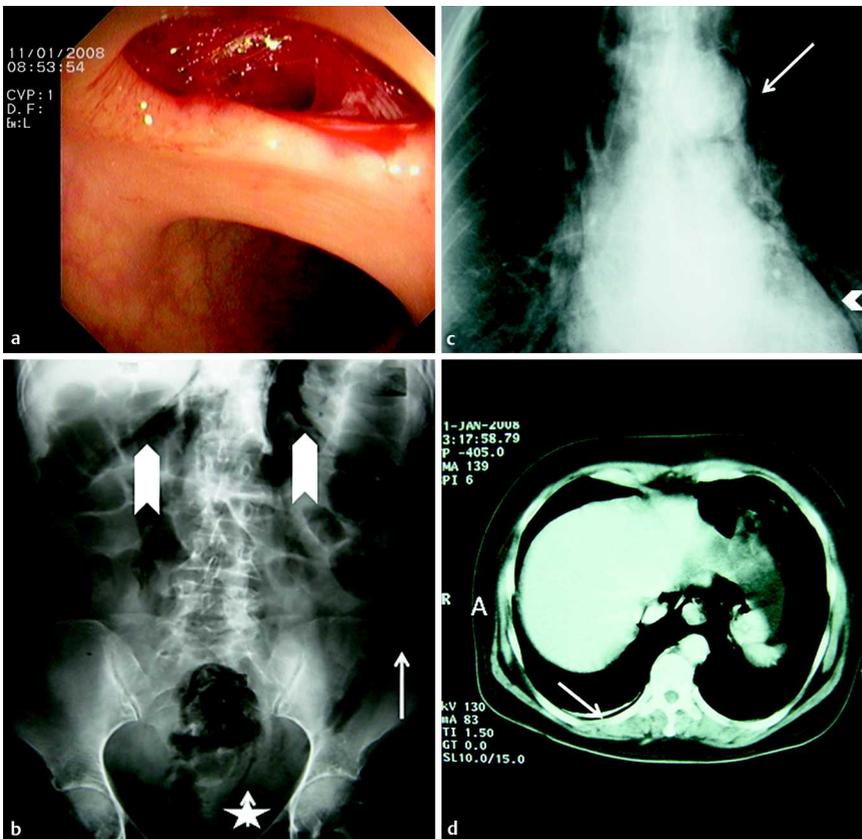


Fig. 2 Second patient. Endoscopic appearance of the lesion found in the rectum. **b** Abdominal radiograph discloses extraluminal presence of air along the left colon (white arrows) and air presence under both hemi-diaphragms (white arrowheads). The linear presence of air at the level of rectosigmoid junction (asterisk) probably reflects the exact site of air leak from the rectal lesion. **c** Chest radiograph discloses pneumomediastinum (white arrow) and pneumopericardium (white arrowhead). **d** Upper abdominal computed tomography scan discloses retroperitoneal air (white arrow), because air accumulation is located behind the pleura.

An 82-year-old female developed cervical emphysema and acute abdomen 7 hours following an otherwise normal diagnostic colonoscopy. Abdominal radiograph (● Fig. 1 a) disclosed the presence of air along the borders of both iliopsoas muscles. As the possibility of intraperitoneal colonic perforation could not be excluded, she was submitted to exploratory laparotomy; sigmoid diverticuli, without any evidence of colonic perforation, purulent or fecal peritonitis, were found. However, air trapped into the retroperitoneum forming multiple characteristic bubbles, was disclosed (● Fig. 1 b). The posterior peritoneum was bluntly dissected.

A 62-year-old female developed subcutaneous emphysema on her neck, face, lateral abdominal wall, and right upper limb, 15 minutes after a diagnostic colonoscopy, which disclosed a small orifice 15 cm from the anal verge (● Fig. 2 a). Abdominal radiograph (● Fig. 2 b) disclosed the presence of air along the left colon and under both hemi-diaphragms, while a linear presence of air at the level of the rectosigmoid junction, probably indicated the exact site of the air leak. Chest radiograph (● Fig. 2 c) disclosed pneumomediastinum and pneumopericardium, while upper abdominal computed tomography scan (● Fig. 2 d) disclosed retroperitoneal air accumulation behind the pleura. The patient was treated conservatively.

The term “silent perforation” [1] has been used to explain the rare complication of retroperitoneal accumulation of the air in the absence of acute clinical signs, following colonoscopy. Accumulation of air into the retroperitoneum is favored by the pressure gradient between the intraluminal colonic pressure (60 cm H₂O) caused by the peristaltic waves and the pressure in the soft tissues (5 cm H₂O) [2]. Once air enters the retroperitoneum, it can be transferred either into the peritoneal cavity or into the visceral space [3], forming retroperitoneal emphysema, pneumatosis cystoides intestinalis, pneumomediastinum, pneumothorax or subcutaneous emphysema [3]. Propagation of the retroperitoneal air either through the visceral space to the periphery along the great vessels of the neck or through the esophageal hiatus to the mediastinum and then to the soft tissues of the neck [4], can explain the cervical emphysema development. In the absence of intraperitoneal air accumulation, acute abdomen can be explained by the distension of the retroperitoneal fascia second-

ary to the trapped air, exacerbating visceral and somatic pain [5]. Conservative management seems effective, reserving surgery for complicated cases.

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Bibliography

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