Pneumatosis intestinalis with superior mesenteric and hepatic portal venous gas in sigmoid colonic cancer: CT findings.

G Di Salvo, G Zotto, P Spillare, G Schittullo, A Bruscagnin

Citation

Abstract
In this article we present a case of colonic cancer with pericolonic abscess, complicated by pneumatosis of the small bowel with gas in inferior and superior mesenteric veins and hepatic portal veins, with emphasis on CT scanning and its diagnostic accuracy.

CASE REPORT
A 83-year-old man was admitted at our Hospital with severe abdominal pain, fever, luminal obstruction, leukocytosis. Physical exam showed a not-tender abdomen and a “mass” in the left lower quadrant. A CT scan of the abdomen and pelvis was obtained without contrast media. CT revealed an irregular thickening of a segment of sigmoid colon, with luminal stenosis and inflammatory stranding with increased density of contiguous fat, associated with pericolonic dense-fluid collection (figures 1a, 1b and 1c) and fluid in peritoneal spaces (figure 2).

Pneumatosis of small bowel, mostly curvilinear, but also bubbly, and endoluminal gas in superior and inferior mesenteric and hepatic portal veins were also found (fig. 3a, 3b and 3c).

Figure 1
Figure 1 – Midpelvic CT scans without contrast media

- Thickening of sigmoid colon with stenosis.
- Inflammatory pericolonic stranding
- Fluid collection lying in front of left ileo-psoas muscle.

Figure 2
Figure 2 – CT scan of the upper abdomen, showing perihepatic fluid.
Abdominal plain film can detect gas in the hepatic dome and also pneumatosis intestinalis, however in about half of the cases: it is also revealed on magnetic resonance and ultrasound imaging (9,10,11). In our case patient’s conditions forced to CT examination, that easily depicted, even without contrast media, bowel occlusion and its etiology, represented by neoplastic stricture of sigmoid colon with ancillary pericolonic abscess. Moreover, gas in mesenteric-portal veins and pneumatosis intestinalis were clearly seen in CT scans: even if these findings did not represent a diagnosis, nevertheless surgery became mandatory after CT examination.

CT imaging is the best exam to diagnose not only pneumatosis intestinalis, and the presence of gas within portal and mesenteric veins, but should be considered the imaging of choice in evaluating critical patients with severe abdominal pain, because it is by far more sensitive in delineating the etiology of pneumatosis intestinalis and portal gas than plain films or ultrasound.

References
2. Graham GA, Bernstein RB, Groner AT. Gas in the porta and inferior mesenteric veins caused by diverticulitis of the sigmoid colon. RADIOL 114:601-602, 1975
Pneumatosis intestinalis with superior mesenteric and hepatic portal venous gas in sigmoid colonic cancer: CT findings.

**Author Information**

**Giuseppe Di Salvo, MD**  
Department of Radiology Ospedale Civile Chioggia, Italy

**Gianmaria Dal Zotto, MD**  
Department of Radiology Ospedale Civile Chioggia, Italy

**Pietro Matteo Spillare, MD**  
Department of Radiology Ospedale Civile Chioggia, Italy

**Giuseppe Schittullo, MD**  
Department of Radiology Ospedale Civile Chioggia, Italy

**Andrea Bruscagnin, MD**  
Chief of Department of Radiology Ospedale Civile Chioggia, Italy