

Silent hepatic portal venous gas following upper gastrointestinal endoscopy

We present a case of benign hepatic portal venous gas (HPVG) following upper gastrointestinal endoscopy.

A 76-year-old man presented with epigastric pain and vomiting of coffee-ground material. There was no remarkable medical history. Physical examination revealed mild epigastric tenderness. A plain film (● Fig. 1) showed gallbladder stones and localized ileus over the mid-abdomen. Upper gastrointestinal endoscopy revealed a gastric ulcer with gastric outlet obstruction. The patient denied any discomfort of the abdomen after the endoscopy. An abdominal computed tomography (CT) scan (● Fig. 2) taken about 5 hours after the upper gastrointestinal endoscopy showed a contracted gallbladder with stones and a distended stomach with an arborized air collection in the portal system, distributed mainly in the peripheral region. However, there was no evidence of bowel ischemia or necrosis, and the patient underwent only conservative management. A follow-up abdominal CT scan (● Fig. 3) 2 days later demonstrated no residual HPVG.

The finding of HPVG was first reported in 1955 [1]. Most cases of HPVG are related to mesenteric ischemia associated with bowel necrosis [2] and require an operation. However, HPVG can occur in several conditions that may be managed with conservative treatment only, such as gastric ulcers and endoscopic sphincterotomy [3]. Although the mucosal injury may be caused by serious pathology such as bowel ischemia, HPVG can occur in benign conditions such as acute gastric dilatation, iatrogenic bowel dilatation (e.g., following colonoscopy, endoscopic sphincterotomy), and abdominal trauma [3–5].

Our patient's asymptomatic HPVG may have been caused by the mucosal disruption related to the gastric ulcer and aggravated by the increased luminal pressure during endoscopy. The high intraluminal pressure during the endoscopic procedure allows the intraluminal gas to diffuse through damaged, or even undamaged bowel wall, and enter the venous circulation [5].



Fig. 1 Plain film showing gallbladder stones and localized ileus over the mid-abdomen.

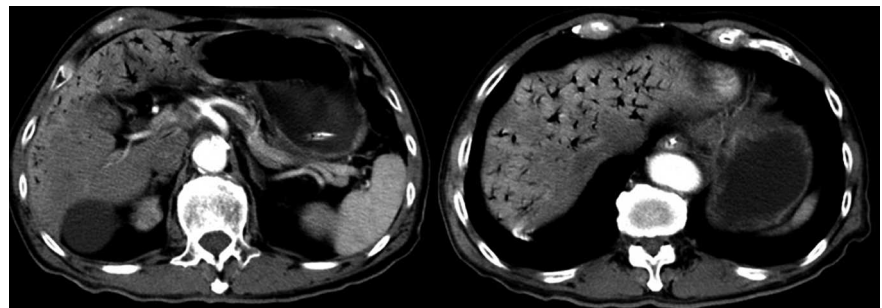


Fig. 2 Abdominal computed tomography (CT) scan showing a distended stomach with arborizing air collection in the portal system (mainly over the peripheral region).

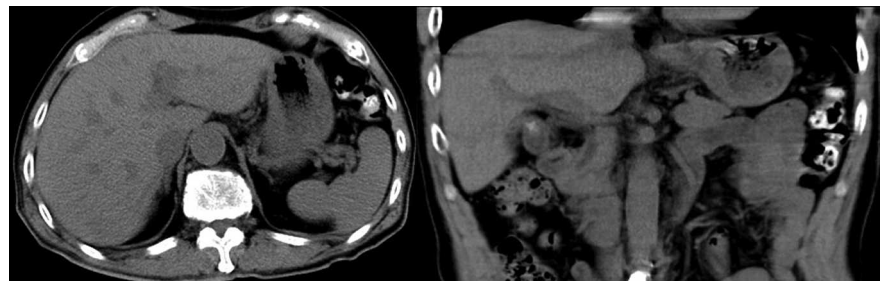


Fig. 3 Abdominal computed tomography (CT) scan showing no air in the portal system.

Asymptomatic HPVG can occur after upper gastrointestinal endoscopy and may be successfully managed with only conservative treatment.

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