

Clinical Image

Rigler's Sign

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What is your diagnosis?

A 91-year-old man presented with progressive abdominal pain for one day. Radiography of the abdomen was done (Figure 1).

Diagnosis: Hollow organ perforation caused by perforated gastric ulcer.

Radiography of the abdomen showed Rigler's sign which is defined as the visibility of bowel wall outlined by intraluminal and extra luminal air and indicates pneumoperitoneum. Computed tomography of abdomen confirmed the diagnosis of pneumoperitoneum (Figure 2). Emergent explorative laparotomy



Figure1: Radiography of the abdomen revealed Rigler's sign, which indicated the visibility of bowel wall outlined by intraluminal and extraluminal air (white arrows)



Figure2: Computed tomography of abdomen confirmed the presence of massive pneumoperitoneum (arrows)

was performed and disclosed a 1-cm ulcer perforation at the anterior wall of pyloric ring. The post-operation course was smooth, and he was discharged uneventfully one month later. Acute abdomen caused by hollow organ perforation is usually difficult to diagnose by plain films that are always the initial diagnostic modality in this clinical condition. However, several characteristic sign of pneumoperitoneum in plain film, such as Rigler's sign, may sometimes help clinicians make the prompt diagnosis.