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IMAGES IN EMERGENCY MEDICINE.....

Rigler's sign in a patient with massive pneumoperitoneum

Figure 1 Massive pneumoperitoneum and Rigler's sign (double-wall sign) on abdominal radiography: the bowel wall is outlined by air both inside and outside (white arrows).

Rigler's sign (double-wall sign) was first described by Leo George Rigler (American radiologist, 1896–1979) in 1941. This is a radiographical sign of massive pneumoperitoneum. In massive pneumoperitoneum, abdominal radiography shows that the bowel wall is outlined by air both inside and outside. This manuscript presents a case of massive pneumoperitoneum secondary to perforation of the colon.

An 80-year-old man presented to the emergency room with abdominal pain and distension, nausea and vomiting for 1 week. He had constipation for 5 days before the onset of these symptoms. His abdomen was distended, tense and tympanic with tenderness of all quadrants. Abdominal radiography showed extensive pneumoperitoneum and Rigler's sign (double-wall sign¹).

Exploratory laparotomy showed a small perforation of the caecum. A limited right colectomy with primary anastomosis was carried out.

Histopathology showed areas of colitis with focal ulceration and thinning, and atrophy of the muscularis propria of the caecum with perforation, secondary to increased pressure in the caecum and increasing tension of the caecal wall.

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