Rigler sign

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Rigler sign, also known as bas-relief or double wall sign, is named after the American radiologist Leo George Rigler, who first described it in 1941 [1]. It denotes the presence of air along the luminal and peritoneal aspect of the bowel wall on supine abdominal radiographs (Fig. 1). This sign is present when there is at least a moderate pneumoperitoneum [1, 2]. It is seen in about 14%–32% cases of pneumoperitoneum [3]. Presence of

intraluminal gas as well as extraluminal gas, accentuates the visibility of serosal surface which has a density similar to abdominal soft tissue density. As demonstration of this sign requires larger volumes of gas, it is more commonly seen in colonic perforation and gastric perforation [1, 3]. It is useful in infants and sick patients where only limited supine radiography is possible [4]. Pseudo-Rigler sign may be seen when there is abundant omental or mesenteric fat outlining bowel loops or when the walls of two adjacent loops of gas-filled bowel are outlined by intraluminal gas [4]. Equivocal appearance of Rigler sign may be clarified using erect or lateral decubitus radiograph and CT.

Fig. 1. Plain radiograph of the abdomen in supine position shows gas on either side of small bowel loop (Rigler sign). Note the bowel walls outlined by free intraperitoneal air (white arrows). Black arrow shows a biliary stent.

Compliance with ethical standards

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Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval This article does not contain any studies with animals performed by any of the author(s). All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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