

## Rigler's Triad: Pneumobilia, Small Bowel Obstruction, and a Gallstone

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Received date: February 19, 2017; Accepted date: February 25, 2017; Published date: February 28, 2017

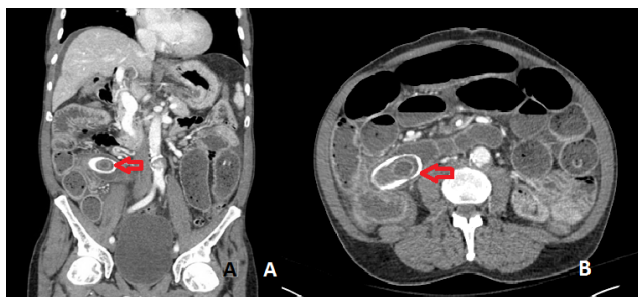
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Citation: Hammami MB, Chhapparia A (2017) Rigler's Triad: Pneumobilia, Small Bowel Obstruction, and a Gallstone. Intern Med, 7: i114. doi: 10.4172/2165-8048.1000i114

**Keywords:** Pneumobilia; Small bowel obstruction; Gallstone

### Clinical Image

A 63-year-old Caucasian male with history of Schizophrenia and developmental disability presents with progressive abdominal pain and worsening nausea. Computed tomography of the abdomen and pelvis demonstrated pneumobilia in both the common bile and left hepatic duct and a contracted high-grade small bowel obstruction secondary to a peripherally hyper dense and centrally lucent 5.4 cm × 2.9 cm structure representing a gallstone at the ileocecal junction. After electrolyte correction the patient underwent an exploratory laparotomy where he was found to have already passed the stone. There were no other findings intra-operatively and his course was otherwise uncomplicated (Figure 1).



**Figure 1 (A) and (B):** Coronal and transverse contrasted CT images demonstrating a peripherally hyper dense and centrally lucent structure at the ileocecal junction representing a large gallstone (red arrow) with multiple fluid filled loops of small bowel proximally and multiple air-fluid levels resulting in decompression of the descending colon.

### Discussion

Rigler's triad is a combination of findings identified on abdominal imaging in people with gallstone ileus, a condition where a large gallstone causes bowel obstruction. It consists of: (I) small bowel obstruction, (II) a gallstone outside the gallbladder, and (III) air in the bile ducts. It was first described in the year 1941 by Leo George Rigler and carries his name [1].

This rare form of mechanical small bowel obstruction results from passage of a large gallstone into the bowel lumen. It is hypothesized that the gallstone enters the bowel via a cholecystoenteric fistula. Large stones, >2.5 cm in diameter, within the gallbladder are thought to predispose to fistula formation by gradual erosion through the gallbladder fundus [2]. Once a fistula has formed, a stone may travel from the gallbladder into the bowel and become lodged anywhere in the GI tract. Obstruction occurs most commonly near the distal ileum, within 60 cm proximally to the ileocecal valve [3,4].

The gallbladder and its attachment to the intestines should be left alone. Laparotomy with stone extraction remains the procedure of choice to relieve obstruction. Large stones within the gallbladder should be removed as well [2].

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