

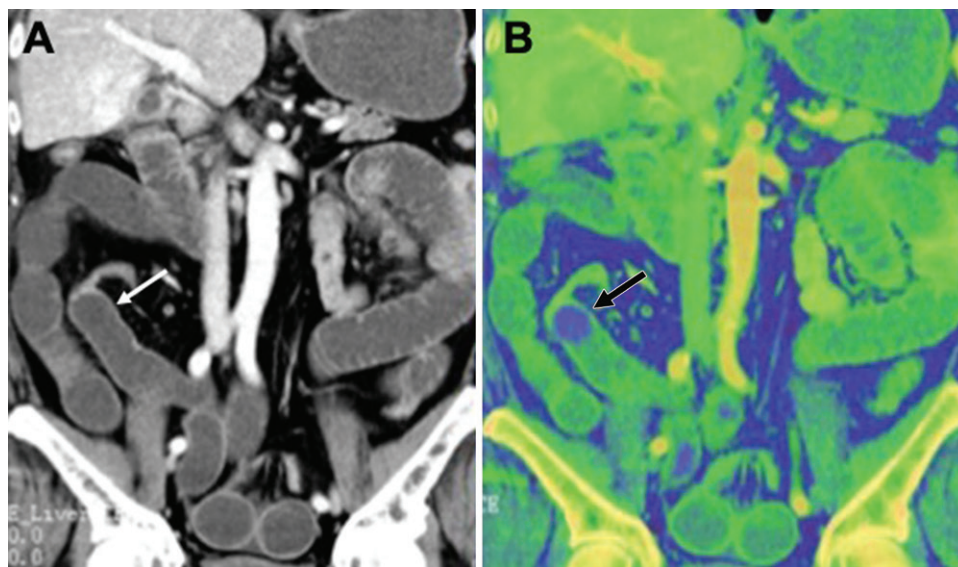
Dual-Energy CT of Gallstone Ileus

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Conflicts of interest are listed at the end of this article.

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A, Dual-energy coronal contrast-enhanced CT image of the abdomen and pelvis obtained with 70-keV reconstruction shows the transition (arrow) from obstructed ileum to decompressed ileum. B, Postprocessed Rho/Z map from this examination clearly shows an impacted ectopic gallstone (arrow). The gallstone is not seen on the 70-keV image as it is of similar attenuation to the surrounding fluid in the distal ileum.

A 60-year-old man presented with acute abdominal pain. Dual-energy contrast material–enhanced CT (Somatom Force; Siemens Healthineers, Forchheim, Germany) demonstrated an ectopic gallstone obstructing the distal ileum, which was not visible on the virtual monochromatic images at 70 keV (Figure) (1). The patient underwent surgery with successful removal of a 3 cm cholesterol gallstone. He has continued to do well at follow-up 2 months later.

Gallstone ileus is a rare cause of mechanical intestinal obstruction (2). The Rigler triad for gallstone ileus includes three findings: pneumobilia, small bowel obstruction, and an ectopic gallstone. Conventional CT is effective in depicting the first two signs, but it does not show the gallstone, which is

indistinguishable from the surrounding fluid in the bowel (2). In this case, dual-energy CT, using the Rho/Z reconstruction, clearly showed the impacted gallstone as the cause of the small bowel ileus.

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References

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