

# *Yersinia enterocolitica* infection with septic pulmonary embolism and liver and intestinal lymph node abscesses

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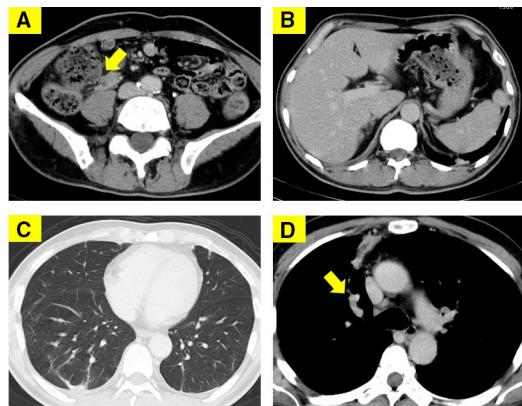
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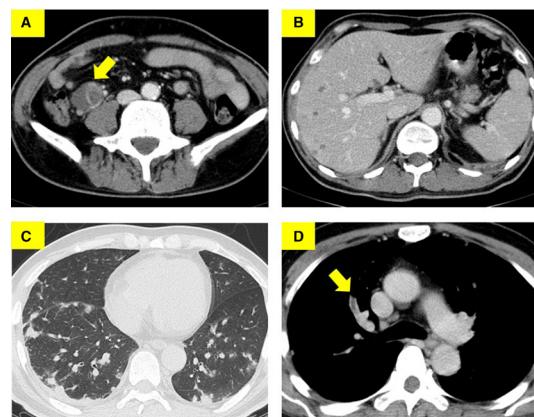
## DESCRIPTION

A 55-year-old man visited the hospital because of fatigue, fever and diarrhoea. He had no medical history and no medication. Physical examination revealed tenderness limited to McBurney's point without muscular defence or rebound tenderness, and coarse crackles were heard on the right lung field. Laboratory findings were as follows: white cell count: 17700 cells/mm<sup>3</sup>; C reactive protein: 33.13 mg/dL; aspartate aminotransferase: 37 IU/L; alanine aminotransferase: 41 IU/L; alkaline phosphatase: 935 IU/L;  $\gamma$ -glutamyl transpeptidase: 153 IU/L; blood sugar level: 413 mg/dL; haemoglobin A1c level: 14.7%; and D-dimer: 7.2  $\mu$ g/dL. PCR test for COVID-19 was negative. Contrast-enhanced CT (CECT) showed enhanced terminal ileum wall thickening, fluid collection, multiple bilateral pulmonary nodules, right pulmonary arterial thrombus and liver abscess (figure 1A–D). Antibiotic therapy with meropenem and intensive insulin therapy for diabetes were administered. Blood culture yielded *Yersinia enterocolitica*. According to blood culture results, the antibiotic drug was changed from meropenem to levofloxacin. The fever subsided on day 10, and he was discharged home on day 28. CECT on day 36 showed that the enhanced terminal ileum wall thickening, fluid collection, multiple bilateral pulmonary nodules, right pulmonary arterial thrombus and liver abscess disappeared (figure 2A–D). He completed the antibiotic therapy and had no apparent comorbidities at 7 months of follow-up. *Y. enterocolitica* is a Gram-negative bacillus that may cause acute gastroenteritis infections, including sepsis and liver



**Figure 2** (A) Enhanced terminal ileum and fluid collection disappeared. (B) Liver abscess disappeared. (C) Multiple bilateral pulmonary nodules disappeared. (D) Thrombus of the right pulmonary artery disappeared.

abscesses.<sup>1,2</sup> Enterocolitis is the most frequent presentation in young children, whereas acute mesenteric lymphadenitis and terminal ileitis are more likely to occur in older children and adults. Septicaemia mostly likely occurs in the elderly and compromised hosts.<sup>3</sup> There are reports of septic pulmonary embolism (PE) caused by *Y. pseudotuberculosis*, but cases of septic PE caused by *Y. enterocolitica* have not been reported in PubMed.<sup>4</sup> We report a rare case of *Y. enterocolitica* infection with septic PE. Septic PE is an uncommon disorder with an insidious onset and is difficult to diagnose.<sup>5</sup> In septic PE, the embolic blood clot that leads to an infarction in the pulmonary vasculature also contains micro-organisms that incite a focal abscess.<sup>6</sup> Since *Yersinia* species grow at temperatures lower than the normal culture temperatures, it is necessary to inform clinicians that they have identified *Yersinia* infections when submitting culture tests to the bacterial laboratory in advance.<sup>7</sup> In immunocompromised patients, such as those with uncontrolled diabetes, infections caused by *Y. enterocolitica* should be considered, because it may be complicated by terminal ileitis and multiorgan abscess, as in this case.



**Figure 1** (A) Enhanced terminal ileum and fluid collection. (B) Liver abscess. (C) Multiple bilateral pulmonary nodules. (D) Thrombus of the right pulmonary artery.

## Learning points

- ▶ *Yersinia enterocolitica* infection causes septic pulmonary embolism.
- ▶ *Y. enterocolitica* should be considered in immunocompromised adults with terminal ileitis and multiorgan abscess.



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## Images in...

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