

症例報告

*Yersinia enterocolitica*による 腸間膜リンパ節炎の腹部画像所見

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Abdominal Imaging of Mesenteric Adenitis Caused by *Yersinia enterocolitica*

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Abstract We present a case of mesenteric adenitis caused by *Yersinia enterocolitica*. In addition to fever and severe abdominal pain, an abdominal mass with diameter of 3cm was palpable. X-ray of the abdomen demonstrated no gas on the right side, mimicking the abdominal mass of malignancy. There was a discrepancy between the clinical presentation and the findings of the abdominal x-ray, and those of the abdominal computed tomography and ultrasound. The wall thickening of the ascending colon and terminal ileum might have caused this discrepancy.

Keywords Lymphadenitis, Abdominal mass, Ultrasound

Case report

A 2-year-old boy was referred to our hospital because of a 5-day history of abdominal pain, vomiting, diarrhea and a fever of 39.6°C. On admission, he complained of severe abdominal pain with watery diarrhea, and on physical examination, a palpable mass with a diameter of 3 cm was found in the right flank. The liver was palpable 4 cm beneath the right costal margin, but the spleen was not palpable. The following laboratory data were obtained: white cell count 18,200/mm³ of which 36% were band cells, 38% segmented cells, 0.5% metamyelocytes and 9.5% lymphocytes, and serum C-reactive protein 8.9mg/dl.

Serum tumor markers, including neuron specific enolase, a-fetoprotein, carcinoembryonic antigen, squamous cell carcinoma antigen, human chorionic gonadotropin and ferritin were within normal limits. Immunosuppressive acidic protein was raised at 1,907µg/ml (normal, <500µg/ml). X-ray of the abdomen showed no gas on the right side (Fig.1), suggesting an abdominal mass which necessitated a differential diagnosis of malignancy, including neuroblastoma, Wilms tumor and malignant lymphoma. Abdominal ultrasound (US) examination showed extensive masses characteristic of tumor along the internal border of the right colon, one of which was 29mm in diameter (Fig.2). Contrast-enhanced computed tomography

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(CT) of the abdomen showed low-attenuation, well defined, oval-shaped masses along the inferior vena cava and around the duodenum (Fig.3). Both CT (Fig.4) and US revealed wall thickening of the ascending colon and terminal ileum. *Yersinia*

enterocolitica grew significantly in the stool culture, confirming mesenteric adenitis as the cause of the extensive masses. The patient was treated with Panipenem intravenously for 7 days. Abdominal pain and pyrexia improved rapidly. The masses steadily decreased in size and were absent on the 7th hospital day by ultrasound examination.

Discussion

Yersinia enterocolitica is known as one of the causative bacteria of enterocolitis and mesenteric adenitis. In some cases, *Yersinia enterocolitica* presents with symptoms similar to appendicitis



Fig.1 X-ray of the abdomen on admission, showing no gas in the right side of the abdomen.



Fig.2 Ultrasound examination of the abdomen on admission, showing extensive masses along the ascending colon.

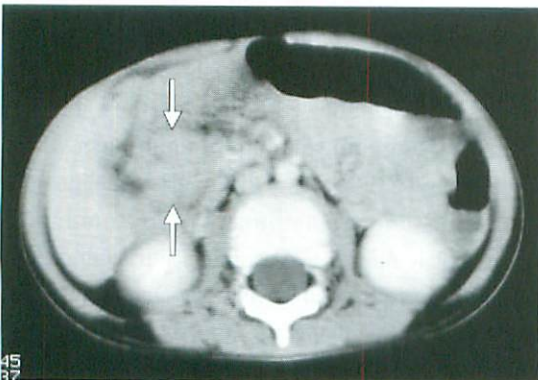


Fig.3 Contrast-enhanced computed tomography of the abdomen on 2nd day showed a low-attenuation demarcated oval-shaped mass along the inferior vena cava and around the duodenum.

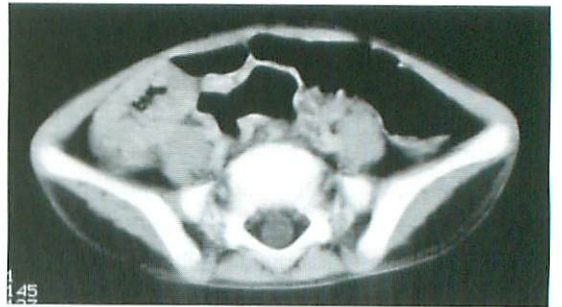


Fig.4 Contrast-enhanced computed tomography of the abdomen on 2nd hospital day revealed thickening of the ascending colon.

or with an abdominal mass, which may lead to unnecessary surgical procedures¹⁻⁶). In general, it is possible to make a diagnosis of mesenteric adenitis based on the clinical presentation and the findings of ultrasound examination⁷). However, the lymphadenopathy in *Yersinia enterocolitica* infection sometimes resembles malignant disorders such as malignant lymphoma^{3, 5}). To differentiate lymphadenitis from lymphoma, detecting the hilum of a lymph node is important. In our case, we could detect the blood flow into the mass using color doppler US. Lymph node enlargement can be in approximately 40% of cases in appendicitis and sometimes in acute gastroenteritis, but generally the lymph nodes are not as large as in mesenteric adenitis due to *Yersinia* infection^{5, 8, 9}).

In our case, there was a discrepancy between the abdominal x-ray suggesting the large mass and the other imaging techniques. A palpable mass with a diameter of 3 cm was found in the right flank, and the abdominal x-ray showed no gas in the right side of the abdomen, whereas the abdominal CT and US did not show such a large mass in this region. Thickening of the intestinal wall associated with mesenteric adenitis might have caused these discrepancies.

Investigations used in this case (x-ray of the abdomen, US and CT) can help to confirm the diagnosis of mesenteric adenitis by *Yersinia enterocolitica*. Although larger populations of children with this diagnosis should be evaluated by abdominal imaging to confirm these findings, wider use of these imaging techniques could avoid unnecessary laparotomy.

We suggest that a diagnosis of mesenteric adenitis due to *Yersinia enterocolitica* should

be considered in all patients presenting with an abdominal mass when there is a suggestive clinical and epidemiological history. The diagnosis should be confirmed by abdominal ultrasound, or alternatively CT or magnetic resonance imaging, and bacteriological examination. Unnecessary surgery should be avoided.

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