Short Communication

Multiple Renal and Splenic Lesions in Cat Scratch Disease

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SUMMARY: Cat scratch disease (CSD) is an infectious disease caused by Bartonella henselae. Atypical clinical presentations of CSD include prolonged fever and multiple hepatosplenic lesions. Furthermore, multiple renal lesions are extremely rare in CSD. An 11-year-old Japanese girl presented at our hospital with a prolonged fever of unknown cause after being scratched and bitten by a kitten. Abdominal computed tomography (CT) revealed multiple small, round hypodense lesions in both kidneys and the spleen. Based on her history and the CT results, her diagnosis was CSD. The diagnosis was confirmed by serological tests, which indicated antibodies against B. henselae. After treatment with azithromycin, her fever immediately improved. Careful history taking and imaging are essential for the diagnosis of atypical CSD. In CT images, not only hepatosplenic lesions but also renal lesions are important features indicative of a diagnosis of atypical CSD. Subsequently, a diagnosis of CSD can be confirmed by specific serological tests. This is the first reported Japanese case of multiple renal and splenic lesions in a patient with CSD. Although difficult to diagnose, an early diagnosis of atypical CSD and appropriate treatment are important to prevent complications and the need for invasive examinations.

Cat scratch disease (CSD), which is generally seen in children, is an infectious disease caused by Bartonella henselae, a gram-negative bacillus (1). Typical CSD is generally benign and self-limiting. CSD is characterized by regional lymphadenopathy with fever following a scratch or bite from a cat or kitten. However, certain CSD cases may present with atypical symptoms. Atypical CSD clinical presentations might include prolonged fever and multiple hepatosplenic lesions (2). On the other hand, multiple renal lesions are extremely rare in CSD (3). Here, we present the case of a child with atypical CSD, who had multiple renal and splenic lesions.

A previously healthy 11-year-old Japanese girl presented to our hospital with a fever of unknown cause. Empiric antibiotics (oral clarithromycin 10 mg/kg/day for 9 days, oral minomycin 4 mg/kg/day for 5 days, and intravenous ceftriaxone 75 mg/kg/day for 5 days) were administered before she visited our hospital, but her fever immediately improved. Careful history taking and imaging are essential for the diagnosis of atypical CSD. In CT images, not only hepatosplenic lesions but also renal lesions are important features indicative of a diagnosis of atypical CSD. Subsequently, a diagnosis of CSD can be confirmed by specific serological tests. This is the first reported Japanese case of multiple renal and splenic lesions in a patient with CSD. Although difficult to diagnose, an early diagnosis of atypical CSD and appropriate treatment are important to prevent complications and the need for invasive examinations.

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an increased erythrocyte sedimentation rate (ESR, 74 mm/h; rr, 5–15 mm/h). Serum immunoglobulin (Ig) A and IgM levels were normal; however, she had high IgG (1,921 mg/dL; rr, 870–1,700 mg/dL) and complement (C3, 186 mg/dL; C4, 38 mg/dL; and CH50, 50 U/mL; rr’s, 65–135 mg/dL, 13–35 mg/dL, and 29–48 U/mL, respectively) levels. Among peripheral blood mononuclear cells, the percentages of CD3+, CD4+, and CD8+ T cells; CD19+ B cells; and natural killer cells were normal. Bacterial and fungal blood cultures yielded no growth. The result of an interferon-γ release assay was negative. Serological test results were negative for Mycoplasma pneumoniae, Chlamydia pneumoniae, Epstein-Barr virus, and cytomegalovirus. Anti-nuclear, anti-Ro/SS-A, and anti-La/SS-B antibodies were not detected. Bone marrow aspiration and an ophthalmological examination showed no abnormalities.

Abdominal contrast-enhanced computed tomography (CT) revealed multiple small, round hypodense lesions in both kidneys and the spleen (Fig. 1); brain and chest CT revealed no lesions. Based on her history and the CT results, a diagnosis of CSD was made. The diagnosis was confirmed using an indirect fluorescent antibody test, indicating antibodies against B. henselae (IgM titer, 1:20 and IgG titer, >1:1024; rr’s, <1:20 and <1:256, respectively).

Therefore, treatment with oral azithromycin (10 mg/kg/day for 3 days) was initiated, and her fever and neck pain improved within 60 h after the start of treatment. Two weeks after treatment, her C-reactive protein level and ESR returned to normal.

We presented here the case of a child with atypical CSD, who had multiple renal and splenic lesions. The patient was diagnosed based on her history, CT findings, and serological test results. Additionally, the patient was successfully treated with azithromycin.

Careful history taking and imaging are essential for the diagnosis of atypical CSD. Subsequently, a diagno-
sition was within normal limits. In our case, we believed our case, urinalysis results were normal, and renal function was within normal limits. In our case, we believed that the high IgG and complement levels resulted from a unique cause of fever of unknown origin. Am J Dis Child. 1983;147:949-53.

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**Conflict of interest** None to declare.