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. She had a 1-month history of a periorbital erythema, which persisted. She had a high C-reactive protein level (4.57 mg/dL; reference range, <0.27 mg/dL) and 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*, *Chlamydophila pneumoniae*, Epstein-Barr virus, and cytomegalovirus. Antinuclear, anti-Ro/SS-A, and anti-La/SS-B antibodies were not detected. Bone marrow aspiration and an ophthalmologic examination showed no abnormalities.

Abdominal contrast-enhanced computed tomography (CT) revealed multiple small, round hypodense lesions in both kidneys and the spleen. 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*. 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 atypical CSD and appropriate treatment are important to prevent complications and the need for invasive examinations.

**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 atypical CSD and appropriate treatment are important to prevent complications and the need for invasive examinations.
sis of CSD can be confirmed by specific serological tests. Although the typical clinical presentation of CSD includes regional lymphadenopathy with fever, atypical clinical presentations of CSD include prolonged fever and hepatosplenic lesions in 0.3–0.7% of patients, most of whom are pediatric patients (2). Moreover, although liver enzyme levels are usually normal in atypical CSD, the ESR is often increased compared with the normal rate (4). However, atypical CSD with multiple renal lesions has been reported in only 2 cases (3,5). On CT, 1 case had isolated renal lesions (3), and the other case had renal and splenic lesions (5). In these 2 cases and 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 1-month history of prolonged inflammation in response to the Bartonella infection.

Abdominal imaging is important for diagnosis in patients with suspected atypical CSD (6). CT may show multiple lesions in the liver, spleen, and/or kidney. Multiple hepatosplenic lesions are usually small, round, and hypodense on CT and result from granulomas (4,5), abscesses (7), or lymphoplasmacytic inflammation (8). Although multiple renal lesions are also small, round, and hypodense on CT, there are currently no reports on the histopathological analyses of these lesions. We believe that renal lesions may be caused by the same factors that cause hepatosplenic lesions.

Although there have been no randomized controlled trials of azithromycin for the treatment of patients with atypical CSD, a randomized controlled trial of azithromycin for the treatment of patients with typical CSD has been reported (9). In that report, a decrease in the initial lymph node volume was noted in 7 of 14 azithromycin-treated patients and in only 1 of 15 placebo-treated patients. In the present case of atypical CSD, clarithromycin and minomycin were ineffective, whereas azithromycin successfully reduced the fever and lymphadenopathy. Additionally, the CT-detected multiple lesions in atypical CSD resolved spontaneously within 6 months in the present case and previously reported cases (3,5).

Cases of multiple hepatosplenic lesions in Japanese patients with CSD have been reported previously (10). To the best of our knowledge, this is the first reported case of multiple renal and splenic lesions in a Japanese patient with CSD. Careful history taking and imaging are essential for the diagnosis of atypical CSD. Subsequently, a diagnosis of CSD can be confirmed by specific serological tests. Although atypical CSD is difficult to diagnose, an early diagnosis and appropriate treatment are important to prevent complications and the need for invasive examinations, such as biopsy.

Informed consent was obtained from the patient’s guardian for inclusion in and publication of this case report.

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Conflict of interest None to declare.

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