

Atypical Adenopathy Associated With Cat Scratch Disease in a Chronically Ill Woman

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Cat scratch disease is a relatively common bacterial infection caused by contact with infected feline saliva. This case demonstrates an unusual presentation of adenopathy involving the superficial subcutaneous tissue of the upper extremity. Due of the location, adenopathy was not the primary consideration. The ultimate cause was identified as cat scratch disease caused by the *Bartonella henselae* organism in a chronically ill woman.

Key words: adenopathy, cat scratch disease, *Bartonella henselae* organism

Cat scratch disease is an infection caused by the bacterium *Bartonella henselae*. Cats carry the bacteria in their saliva as well as on their fur. Humans usually contract the disease by a cat scratch or bite but also by petting a cat's fur and then rubbing the eyes. Most cases are relatively benign and limited in duration. Prognosis is generally favorable. With or without treatment, most cases usually resolve within one month.

Case Presentation

A woman in her mid-40s presented with a tender lump on her distal left upper arm, medially and just superior to her elbow (Figure 1), that was associated with pain in her left axilla. The mass had appeared one week prior to presentation. Her clinical history was complicated by a long-term undiagnosed chronic illness. Her symptoms had persisted for over two years. The clinical presentation included a multitude of complaints, including fatigue, general achiness, painful joints, cognitive difficulties, motor discoordination, and overall exhaustion. She

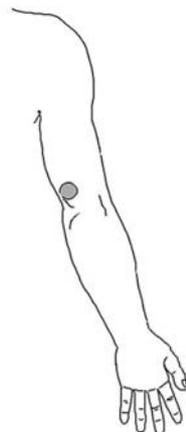


FIGURE 1. Anatomic location of left arm mass.

was afebrile and had no weight loss or palpable adenopathy. Possible causes investigated over the two-year period included multiple sclerosis, chronic Epstein-Barr disease, Lyme disease, chronic fatigue syndrome, fibromyalgia, and chronic hepatitis. All testing for the potential causes of her illness were negative or inconclusive.

Sonographic examination was performed with a Toshiba Nemio sonographic system (Tustin, California) using a 12-MHz linear array transducer. Imaging of the left arm mass revealed a 1.7-cm superficial, hypoechoic mass just beneath the skin within the subcutaneous soft tissue (Figure 2). The mass was diffusely heterogeneous with well-defined borders. Power color Doppler demonstrated central vascular flow similar to the hilum of a lymph node (Figure 3). Although the overall appearance was suggestive of a lymph node, because of the unusual location on the arm, other soft tissue masses were considered. Examination of her left axilla revealed two similar hypoechoic masses with the characteristic appearance of adenopathy (Figure 4). A biopsy was recommended.

The entire mass on the left arm was surgically removed. Gross pathological evaluation revealed an enlarged, inflamed, infected lymph node with loculated pustules. Immunological assessment demonstrated the presence of the *B. henselae* organism.¹ This organism is responsible for the development of cat scratch disease (CSD). The patient did indeed own three cats but could not recall being scratched or bitten.

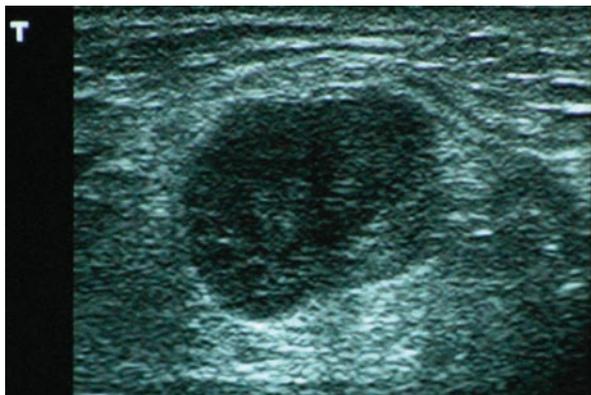


FIGURE 2. Imaging of the medial aspect of the left upper arm demonstrates a 1.7-cm, diffusely heterogeneous, well-circumscribed hypoechoic mass.



FIGURE 3. Power color Doppler demonstrates central vascular flow within the mass.

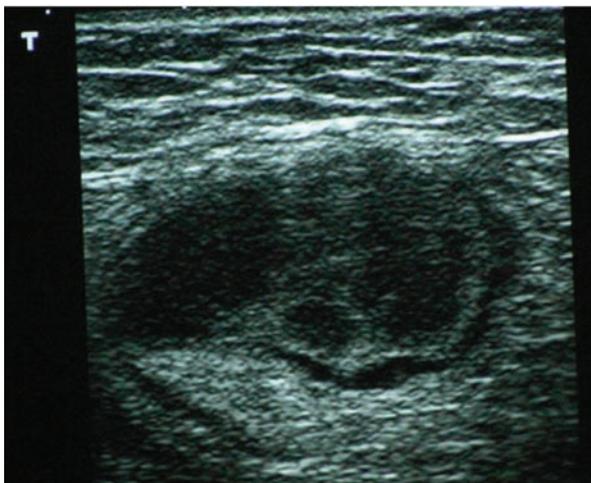


FIGURE 4. Imaging of the left axilla demonstrates enlarged nodes with similar characteristics.

The patient was put on an eight-week regime of antibiotic therapy that included azithromycin, doxycycline, and ciprofloxacin. The patient recovered fully with gradual cessation of all symptoms. Follow-up sonography of the left axilla revealed complete resolution of the previously seen adenopathy.

Discussion

Cat scratch disease is an infection caused by a bacterium identified as *B. henselae*. The first description is credited to Henri Parinaud, who referenced the condition in French medical literature in 1889. Dr. Robert Debré was the first to recognize the cat as a carrier for this disorder and coined the term *cat scratch disease* in 1931. According to the Centers for Disease Control and Prevention, approximately 22,000 cases of CSD are reported annually in the United States, with more than 2000 hospital admissions.²

Forty percent of cats carry the bacteria at some point in their lives but do not themselves show any signs of the illness. Kittens are more likely to carry the bacteria than older cats. Flea infestation is thought to be the primary source of transmission. Cats carry the bacteria in their saliva as well as on their fur. Humans usually contract the disease by a cat scratch or bite but also by petting a cat’s fur and then rubbing their eyes. Ticks have also been shown to carry the bacteria, which are often transmitted at the same time as Lyme disease. The clinical presentation of CSD usually includes suppurative papules at the site of a cat scratch or bite within 10 days. Other progressive symptoms are included in Table 1.

It may take as long as two months before symptoms appear. Most cases are relatively benign and limited in duration, although symptoms may persist for several months. In this case, symptoms persisted for more than two years. Prognosis is generally favorable. With or without treatment, most cases usually resolve within one month. The infection can be more serious in people with impaired immune systems.²⁻¹⁰

Conclusion

Lymphadenopathy is a common finding associated with many primary, metastatic, and infectious

TABLE 1.
Progressive Symptoms Associated With Cat Scratch Disease

Symptoms
Fever
Nausea
Vomiting
Chills
Fatigue
Lymphadenopathy
Headache
Backache
Abdominal pain
Alterations of mental status

diseases. Although nodes are most commonly found in the neck, axilla, chest/hilum, retroperitoneum, and groin, this case demonstrates it may occur in unusual locations. When evaluating superficial masses of the extremities, adenopathy should be considered in the differential diagnosis.

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