

# DISSEMINATED CAT-SCRATCH DISEASE: A CASE REPORT

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## Abstract:

Cat-scratch disease is an infectious disease caused by *Bartonella henselae*, a gram-negative bacillus. The disease is usually transmitted to the human being by cat scratches. Cat-scratch disease typically presents with painful regional lymphadenopathy. Systemic involvement is unusual. A 35 years old lady, came with the complaints of fever, abdominal pain along with nausea, anorexia & difficulties of swallowing for 6 months. She has painful cervical lymphadenopathy. Histopathology of her lymph node biopsy shows features of cat-scratch disease.

**Key Words:** Cat-scratch disease, zoonotic disease.

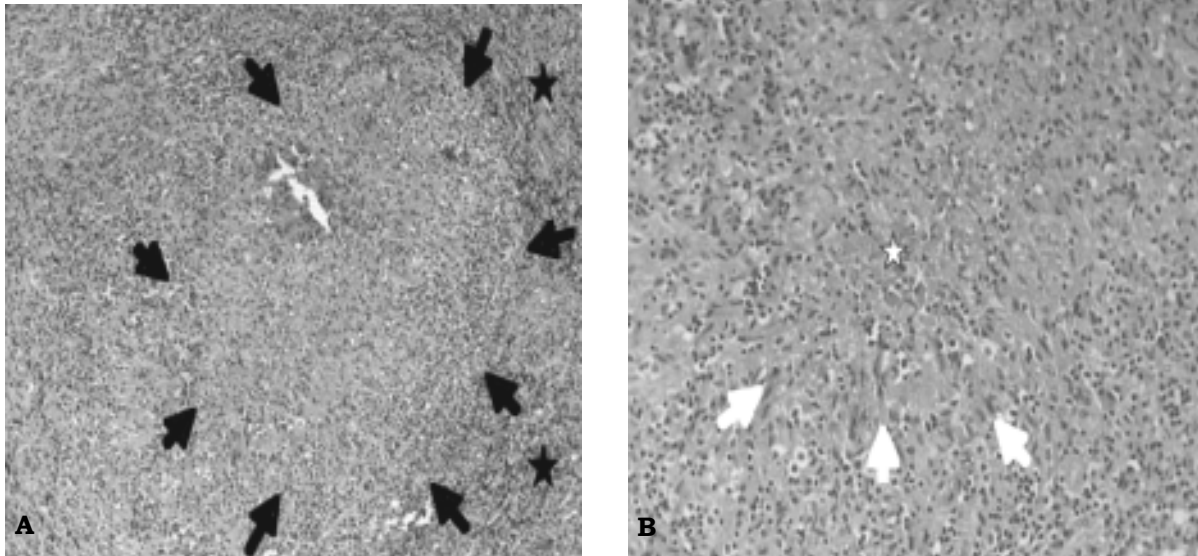
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## Introduction:

Cat-scratch disease is a zoonotic disease. Cats acts as a reservoir of *Bartonella henselae*. Cats become infected by bite of cat fleas<sup>1</sup>. Human becomes infected by scratched, bitten or licked by cats. Patients usually present with lymphadenopathy, fever 2-4 weeks after exposure. Sometimes patients show some atypical symptoms and signs. Usually the disease is self limiting in immunocompetent person<sup>1,2</sup>.

## Case presentation:

A 35 years old lady, hailing from Mughda, Dhaka, came with the complaints of fever, abdominal pain along with nausea, anorexia & vomiting, Difficulties in swallowing for 6 months. She also complains of swelling on her neck which is painful for 2 weeks. Her fever was intermittent, low grade at first but later became high grade intermittent. She was found anaemic, non ecteric, normotensive. She had bilateral cervical lymphadenopathy which was tender, discrete, soft, with no discharging



**Fig.-1:** The granuloma (A) appears as a well-circumscribed area (black arrows) surrounded by an inflammatory reaction with multiple lymphocytes (black asterisks); (B) Palisading epithelioid histiocytes (white arrows) surround a central stellar zone of necrosis and nuclear dust (fragmented polynuclear cells, white asterisk).

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sinus. Her liver was just palpable but no other organomegaly. She had a scratch mark on her feet with no local lesion. Her investigation reports revealed Hb-10.7g/dl, WBC-92500/mm<sup>3</sup>, ESR- 101 mm in 1<sup>st</sup> hour, PBF- Microcytic hypochromic anaemia, MT- Positive (20mm), ANA-negative. Mild hepatomegaly, no ascites or abdominal mass or enlarged lymph nodes were detected in ultrasonography of the whole of the abdomen, and para right tracheal lymphadenopathy was found in chest x-ray. Lymph node biopsy (excision biopsy) revealed stellate abscess with palisading of histiocytes. No malignant cell seen. The findings were consistent with cat-scratch disease. She was treated with azithromycin and responded well.

### Discussion:

Cat-scratch disease was first defined as a human disease in 1931, and the term 'cat-scratch disease' was adopted in 1950<sup>1</sup>. It occurs throughout the world and is most common in children and young people<sup>1-3</sup>. It is a zoonotic disease caused by genus of small Gram negative bacteria *Bartonella*, most commonly *Bartonella henselae*<sup>1-4</sup>. Cats are the reservoir hosts for *Bartonella henselae*. *B. henselae* is transmitted between cats by cat fleas (*Ctenocephalides felis*), probably via flea feces rather than saliva. Human becomes infected with *B. henselae* by scratches and bites from cats. More than 90% of clinical cases occur in people who have been in contact with cats, most often kittens, and the majority of these patients report having been scratched, bitten or licked<sup>1-3,5</sup>.

Cutaneous lesions usually develop at the inoculation site within 7 to 15 days after exposure, and lymphadenopathy is typically seen after 1-3 weeks. However, clinical signs have been reported as soon as 3 days and up to 50 days after exposure<sup>4,5</sup>. *B. henselae* appears to infect some immunocompetent people without causing clinical signs. Most others develop cat scratch disease. It may start as a small skin papule or pustule (at the site of inoculation of the organism – most commonly a cat scratch), which may rupture before healing after around three weeks. A few weeks later, usually painful local lymph node swelling develops, and in the majority of cases (85 per

cent) this is limited to a single lymph node (often in the axilla or neck). The lymph node swelling may be marked, and may persist for several weeks or months<sup>4-6</sup>. In most cases no further signs develop and the swelling eventually resolves. Sometimes the affected lymph nodes form an abscess and rupture<sup>7</sup>. Other signs develop in some patients – most commonly mild fever and malaise<sup>1-4,6</sup>. Myalgia, headache and nausea are seen in some<sup>6,7</sup>. The disease in humans is typically benign and self-limiting<sup>1</sup>.

In immunocompromised individuals, the clinical signs may be more severe; complications, bacteremia and atypical presentations are more common<sup>7,8</sup>. They may develop bacillary angiomatosis and peliosis hepatis. Bacillary angiomatosis is a vascular proliferative disease of the skin and/or internal organs. Peliosis hepatis is characterized by vascular proliferation in the liver, which can result in multiple blood-filled cysts and sinusoidal dilatation<sup>6-8</sup>.

Biopsy revealed a granulomatous inflammatory disorder. Large areas of necrosis were surrounded by lymphocytes, epithelioid histiocytes and some giant cells. The epithelioid histiocytes were typically palisading around a necrotic area. This histological aspect was suggestive of cat-scratch disease<sup>3,4,6,7</sup>. The Warthin starry silver staining showed bacilli compatible with *Bartonella henselae*. Serological tests for *B. henselae* include various indirect immunofluorescence assays and enzyme-linked immunosorbent assays (ELISAs). A fourfold rise in titer or the presence of IgM suggests a recent infection. IgM antibodies to *B. henselae* have been reported to persist for less than three months, while IgG may be detected for more than two years<sup>7,8</sup>. Many cases of cat scratch disease in immunocompetent individuals are self-limiting. Treatment is usually supportive and symptomatic. Some other needs antibiotic treatment. Immunocompromised are routinely treated with antibiotics<sup>8</sup>.

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