



Case Reports of Cat Scratch Disease with Typical and Atypical Clinical Manifestations: A Literature Review

Gulshan Umbreen* and Chanda Jabeen

Department of Epidemiology and Public Health, University of Veterinary and Animal Sciences,
Lahore, Pakistan

*Corresponding e-mail: gul123kbc@gmail.com

ABSTRACT

Cat scratch disease (CSD) is the most well-known zoonotic disease spread by domestic animals like cats. Cats are the source of *Bartonella henselae*. Most patients more than ninety percent 3-12 days after a scratch from a cat, undoubtedly a little cat with insects present with one or more erythematous injuries at the site of inoculation, the sore is typically a crusted papule or, once in a while, a pustule. More than half of cases in one study show that the systemic indications went with the lymphadenopathy. These may incorporate fever, discomfort, migraine and anorexia and frequently happen in immunocompromised patients. Atypically clinical manifestations happen are altered mental status, perplexity, prolonged fever, respiratory protestations (atypical pneumonitis), Joint pain, synovitis, Back agony is uncommon. The hypothesis of the study to find out that cat scratch disease cause typical and atypical clinical manifestation. Study was conducted July 2015 to September 2015. The methodology sections of a review article are listed all of the databases and citation indexes that were searched such as Web of Science and PubMed and any individual journals that were searched. Various case reports were mentioned in the study. Case reports of cat scratch diseases with typical and atypical clinical manifestation included in the study. The objective of review of these reporting cases is to make physicians aware about cat scratch diseases and also need to create awareness about cat scratch disease in pet owner. Although it is self-limiting needs to report to health authorities. There are few cases reported in which mostly cases reported in twain, japan, Brazil, Texas, United States, Dhaka, Spain with typical and atypical clinical manifestation.

Keywords: Cat scratch disease, typical and atypical clinical manifestations

INTRODUCTION

Cat scratch disease (CSD) is the most well-known zoonotic disease spread by domestic animals like cats. Cats are the source of *Bartonella henselae*. Most patients more than ninety percent 3-12 days after a scratch from a cat, undoubtedly a little cat with insects present with one or more erythematous injuries at the site of inoculation, the sore is typically a crusted papule or, once in a while, a pustule. One to three weeks after the presence of the primary sore, provincial lymphadenopathy shows up, ordinarily alongside the inoculation site. The nodes are frequently agonizing and in 25% to 30% of cases suddenly suppurate. More than half of cases in one study show that the systemic indications went with the lymphadenopathy. These may incorporate fever, discomfort, migraine, and anorexia and frequently happen in immunocompromised patients. In immunocompromised (e.g. AIDS) patient's, bacillary angiomatosis can happen and may leads to a serious systemic sickness.

Atypically clinical manifestations happen are altered mental status, perplexity, prolonged fever, respiratory protestations (atypical pneumonitis), Joint pain, synovitis, Back agony is uncommon, Parinaud's oculoglandular disorder, neuroretinitis. This happens approximately in 2% of patients. With one-sided or reciprocal intense visual loss may also present. Osteolytic injuries, erythema nodosum, thrombocytopenic purpura are less basic conditions.

The scope of the study to create awareness about cat scratch diseases in Health practices and pet owner. In case of lymphadenopathy and cardiac involvement cat scratch disease must be considered in differential diagnosis and

perform blood test to detect *Bartonella henselae*. Cat scratch disease is self-limiting. No fatal cases diagnosed. All have recovered. Although it self-limiting needs to be reported. It is a neglected zoonosis.

BACKGROUND

The objective of review of these reporting cases is to make physicians aware about cat scratch diseases and also need to create awareness about cat scratch disease in pet owner. The hypothesis of the study to find out that cat scratch disease cause typical and atypical clinical manifestation. Study was conducted July 2015 to August 2016. The Methodology sections of a review article are listed all of the databases and citation indexes that were searched such as Web of Science and PubMed and any individual journals that were searched. Case reports of cat 4 scratch diseases with typical and atypical clinical manifestation included in the study. Various case reports were mentioned in the study.

CASE REPORTS

The first case report in Twain report a typical case of cat-scratch disease caused by *Bartonella henselae*. A 20-year-old man 2 weeks after being scratched on his right hand by a kitten developed right axillary lymphadenopathy. This is the first reported case of cat-scratch disease in Taiwan, with a history of contact with a cat, a positive serologic test for *B. henselae* infection [1].

In the outpatient department of Enam Medical College, Savar, Dhaka in April 2009, the other case reported. A 15-year-old kid gave protestations of axillary swelling and fever with low grade for one month. He expressed that around six weeks back a cat scratched his left lower arm. After the scratch of one week a little swelling at the site of harm saw and from there on he built up a swelling in his left axilla alongside fever with low grade, weakness, anorexia, and cerebral pain one more week [2].

Another a case of a forty-three-year-old woman in Madrid, Spain owner of cats with a previous valvular heart disease, probably of rheumatic origin, suffered an infectious endocarditis due to *B. henselae* in the aortic valve [3].

The other cases in Spain a total of 6 cases have been reported. In which, endocarditis due to *Bartonella* spp. occur in 3 cases. The aortic valve was the one most commonly affected. In all cases, *B. henselae* was the agent found [4].

The other report a case of a 9-year-old girl in Taipei, Taiwan scratched on the right side of her neck by a kitten about one month prior to admission. She was well until she developed enlarged right neck masses, a pustule on the scratch site, right injected conjunctiva, headache, general malaise, and fever three weeks later, these symptoms meet the clinical criteria of CSD [5].

Another case reports in Israel in which 913 patients with CSD, 96 (10.5%) had Musculoskeletal manifestations (MMs). Myalgia (in 53 patients (5.8%)) was often severe, in 50 patients (5.5%) Arthropathy (arthralgia and/or arthritis; in 26 patients occurred mainly in the 5 medium and large joints and was classified as moderate or severe. In 7 patients, symptoms persisted for ≥ 1 years, 5 developed chronic diseases. Tendinitis, neuralgia, and osteomyelitis occurred in 7, 4, and 2 patients, respectively [6].

Another case reported somewhere around 1997 and 2003 in Yamaguchi, Japan an aggregate of 127 patients were serologically analyzed as having infection of *Bartonella*, common cat scratch sickness found in 75 patients had and 52 had an atypical one. Delayed fever found in 46 and 23 had no lymphadenopathy, and 21 having entanglements. Total 127 seropositive cases have shown hepatic/splenic abscesses or low-echoic sores, hepatic granuloma, and focal sensory system associations as atypical indications. Of the 23 cases, 20 found with prolonged fever without lymphadenopathy and 16 of the 21 cases with complexities. Prolonged fever has a tendency to have happened if the youngster experiencing disease of cat scratch without lymphadenopathy or with complexity [7].

Three distinct cases reported in United States with cat scratch illness the liver was influenced. Every one of the three had high fever (39°C) for more than 3 weeks. No adenopathy seen in periphery in two of them. On the liver surfaces nodules present of all patients at laparotomy and histological examination indicated necrotizing granulomata [8].

Another cases report in japan which are 130 cases, in these 130 cases of 103 (79.2%) were typical CSD and 27 (20.8%) were atypical CSD. Usually Atypical cases of CSD were accounted for as fever of unknown origin (37.0%),

neuroretinitis (22.2%), encephalopathy (14.8%), hepatosplenic granuloma (11.1%), and Parinaud's oculoglandular syndrome (7.4%) in 27 (20.8%) [9].

The case of a 79-year-old man who presented with general malaise and a high fever. The lymph node was not augmented. Solitary splenic abscess and no lymphadenopathy revealed an abdominal CT scan with intravenous contrast and a splenectomy was showed in the light of because initial antibiotic treatment was ineffective or inadequate. The likelihood of CSD raised with a background marked by contact with cats, which was affirmed by a positive serology test result for *B. henselae* [10].

A 6-year-old boy with a chief complaint of a right axillary mass with dynamic development for 1 month and He denied inflammatory signs or pain, however had confinement in abduction of the right upper limb from a provincial region came in to the hospital. Chronic granulomatous inflammation was diagnosed with the historical backdrop of contact with cats [11].

A 58-year-old woman with a history of repetitive necrotizing lymphadenopathy was conceded in a clinic. She complained onset of painful left axillary lymph node package connected with fever (38°C) in February 2008. She was followed in the oncology department from 2008 to 2010 for that issue. She revealed that she was in contact with cats [12].

CSD cases have been published in a total of 16 articles (4 international, 12 national) between the years 1996-2013. These articles which were exhibited as a case report incorporated a total of 18 CSD cases (38.8% women, 61.2% men; median age 16 years). The most widely recognized clinic pathologic subtypes of CSD are regional lymphadenitis (n=9), hepatosplenic (n=3) and neuroretinitis (n=2). Swelling (94.4%), fever (61.2%) and weakness (50%) at admission. On exam, the most well-known signs were lymphadenopathy (94.4%), fever (61.2%), splenomegaly (16.6%), and skin eruption (16.6%) These were the most widely recognized complaints of patients [13].

A case of a 10-year-old boy with complaints of swelling of both side of inguinal region for 2 months, delicacy of a similar range for 1 month and low grade fever for 2 months admitted in Dhaka Shishu (Children) hospital. He had just a background marked by contact with a kitten for 1 week 3 months back yet no history of cat scratch or bite. Lymph node biopsy uncovered that it was a case of cat scratch disease [14].

A 12-year-old boy was admitted to another hospital with 7-day history of fever, abdominal pain, migraine, and weight reduction. After the abdominal ultrasound shows multiple hypoechoic liver lesions. Fever and abdominal pain proceeded and he had lost 8 kilograms. He had a background marked by of playing with a kitten. Physical examination uncovered two-sided inguinal lymphadenopathy [15].

The most widely recognized zoonosis in people is cat scratch disease and its typical expression is a persistent benign regional adenopathy. Mono- or multifocal osteomyelitis is portrayed in some uncommon cases. Bone lesions found in a 13-year-old lady contaminated with cat scratch disease [16].

CONCLUSION

In this review article, cases of cat scratch disease in various countries have been reported. There are few cases reported in which mostly cases reported in twain, japan, Brazil, Texas, United States, Dhaka, Spain with typical and atypical clinical manifestation. Accurate diagnosis made on detailed history of patient with bite or scratch of cats. This is the main point to differentiate from other disease. Cat scratch disease is self-limiting. No fatal cases diagnosed. All have recovered. Although it self-limiting needs to be reported. It is a neglected zoonosis.

Recommendations

- Need to create awareness about cat scratch diseases in Health practices.
- Need to create awareness about cat scratch disease in Pet owners.
- Necessary for the physician to take detailed history because sometimes patients do not remember a bout cat bite or scratch and on the basis of enlarge lymph nodes may diagnose another disease. Precise diagnose requires criteria which are contact history with cats, perfect clinical signs and manifestations, and through laboratory confirmation by using PCR.
- Needs to be reported to health authorities. There is no even single case is reported in any city of Pakistan.

- In case of lymphadenopathy and cardiac involvement cat scratch disease must be considered in differential diagnosis and perform blood test to detect *B. henselae*.
- No test performed to detect *B. henselae* in any Hospital of Lahore. Needs to perform.
- It is a neglected zoonosis.

REFERENCES

- [1] Lee, Sai-Cheong, et al. "Cat-scratch disease caused by *Bartonella henselae*: The first case report in Taiwan." *Journal of the Formosan Medical Association* 97.8 (1998): 569-572.
- [2] Bhattacharjee, Swapna, Shekhar Bhattacharjee, and Ahmed Al Montasir. "Cat scratch disease." *Journal of Enam Medical College* 2.1 (2012): 40-42.
- [3] Cilla, E. G., eds. "*Bartonella henselae* endocarditis. Report of a case and review of the literature". *Annals of Internal Medicine* (Madrid, Spain: 1984); 2001.
- [4] Oteo, J., et al. "Endocarditis due to *Bartonella* spp. Three new clinical cases and Spanish literature review". *Infectious diseases and clinical microbiology* 24(5) (2004): 297-301.
- [5] Hsu, Chen-Fang, et al. "Cat scratch disease in a child." *Zhonghua Minguo xiao er ke yi xue hui za zhi* 38.2 (1996): 152-154.
- [6] Maman, Eran, et al. "Musculoskeletal manifestations of cat scratch disease." *Clinical infectious diseases* 45.12 (2007): 1535-1540.
- [7] Tsujino, Kumiko, et al. "Clinical implication of prolonged fever in children with cat scratch disease." *Journal of infection and chemotherapy* 10.4 (2004): 227-233.
- [8] Lenoir, Allen A., et al. "Granulomatous hepatitis associated with cat scratch disease." *The Lancet* 331.8595 (1988): 1132-1136.
- [9] Murakami, Kyoko, et al. "Cat scratch disease: Analysis of 130 seropositive cases." *Journal of infection and chemotherapy* 8.4 (2002): 349-352.
- [10] Nakamura, Momoko, et al. "Cat-scratch disease presenting as a solitary splenic abscess in an elderly man." *BMJ case reports* 2015 (2015): bcr2015209597.
- [11] Macias, Antonio, et al. "Cat scratch disease in Medellín, Colombia." *Oxford Medical Case Reports* 2014.3 (2014): 43-45.
- [12] Spinella, Amelia, et al. "Beyond cat scratch disease: A case report of bartonella infection mimicking vasculitic disorder." *Case reports in infectious diseases* 2012 (2012).
- [13] Ulug, Mehmet. "Evaluation of cat scratch disease cases reported from Turkey between 1996 and 2013 and review of the literature." *Central European journal of public health* 23.2 (2015): 170.
- [14] Yasmeen, B. H. Nazma, et al. "Prevalence of urinary tract infection, its causative agents and antibiotic sensitivity pattern: A study in northern international medical college hospital, Dhaka." *Northern International Medical College Journal* 7.1 (2015): 105-109.
- [15] Atıcı, Serkan, et al. "Atypical presentation of cat-scratch disease in an immunocompetent child with serological and pathological evidence." *Case reports in pediatrics* 2014 (2014).
- [16] Dusser, P., Eyssette-Guerrea, S., Koné-Paut, I. "Osteomyelitis in cat scratch disease: a case report and literature review". *Archives of pediatrics: Official organ of the French Society of Pediatrics* 20.6 (2013): 624-628.