

Content available at: <https://www.ipinnovative.com/open-access-journals>

IP Journal of Diagnostic Pathology and Oncology

Journal homepage: <https://www.jdpo.org/>

Case Report

Catscratch disease in an SLE patient -A case report

Lakshmi K^{1,*}, Rachel Abraham¹

¹Dept. of Pathology, KIMS Health, Thiruvananthapuram, Kerala, India



ARTICLE INFO

Article history:

Received 20-01-2023

Accepted 21-04-2023

Available online 28-08-2023

Keywords:

Catscratch

Disease

SLE

ABSTRACT

Catscratch disease[CSD] is a self limited lymphadenitis caused by Bartonella Henselae and transmitted by cats. This typically affects children and young adults. Immunosuppression is considered as a risk factor for severe and atypical forms of the disease. We are reporting such a case of Catscratch disease in a patient with Systemic Lupus Erythematosus while receiving immunosuppressant therapy.

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

1. Introduction

Catscratch disease is a benign infectious disease caused by the intracellular bacterium Bartonella Henselae. Cats are the main reservoir of this bacterium.^{1,2} Dogs., monkeys and rabbits are also reservoirs other than cats³.CSD is typically a self limiting disease primarily presenting with regional lymphadenopathy following approximately one to three weeks after cat bite.¹

2. Case Report

The patient was a 23 year old lady, postgraduate student, a known case of Systemic Lupus Erythematosus (SLE) diagnosed 1 year back. She was on treatment with Mycophenolate mofetil, Hydroxychloroquine and Wysolone .She presented to Rheumatology OPD with high grade intermittent fever for 1 month ,left sided neck swelling and pain for 1 month. On general Examination, patient was febrile with a temperature of 101 degree F .There were palpable cervical lymphnodes. Left retroauricular node was 3 x 3 cm, firm, tender. Left jugulodigastric nodes were palpable and tender. There were no throat or dental lesions. Systemic examination was unremarkable

.Laboratory investigations showed Total count– 7700 (P86 L 7), Platelet count – 3.12 lac/cmm, Creatinine – 0.6 mg/dl, ESR – 101mm/1st hour, CRP- 8.3. Urine routine was within normal limits. Anti ds DNA – 40 (negative).Blood cultures were negative. Interferon gamma release assay was negative. USG showed no hepatosplenomegaly. Chest X-ray was within normal limits.

Initially she was managed on OPD basis with short course antibiotics- Amoxicillin Clavulanate FNAC of left retroauricular lymph node was done but the results were inconclusive. Since her symptoms persisted, she was admitted for detailed evaluation. Infectious Disease opinion was sought. Excision biopsy from Left retroauricular lymph node was done.

Histology showed lymphnode with histiocytic collections forming granulomas and foci of suppuration. Special stains for AFB and fungi were negative. Warthin Starry stain demonstrated the bacilli, thus confirming the diagnosis of Catscratch disease. On the patient's next visit, a history of catscratch was elicited by the clinician thus supporting the diagnosis. Our patient was treated with Azithromycin and the neck swelling regressed in size.

* Corresponding author.

E-mail address: doclakshmi02@gmail.com (Lakshmi K).

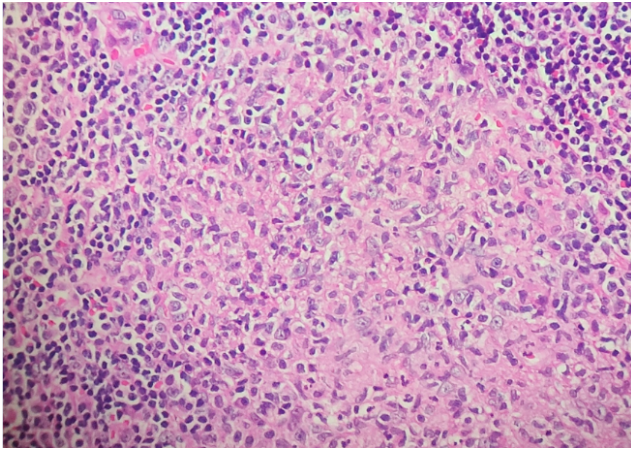


Fig. 1: Granuloma

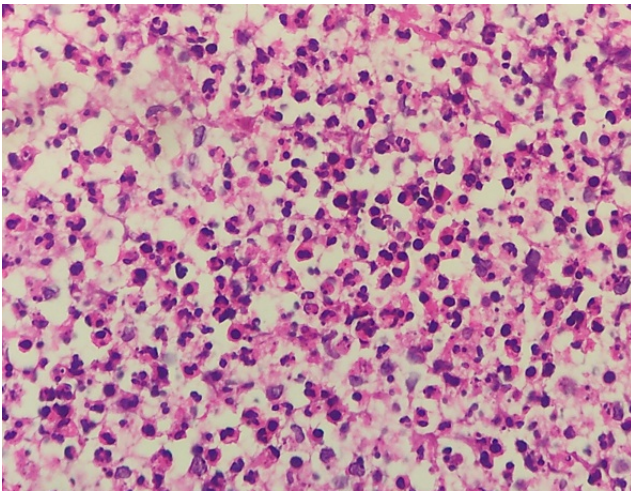


Fig. 2: Neutrophilic abscess

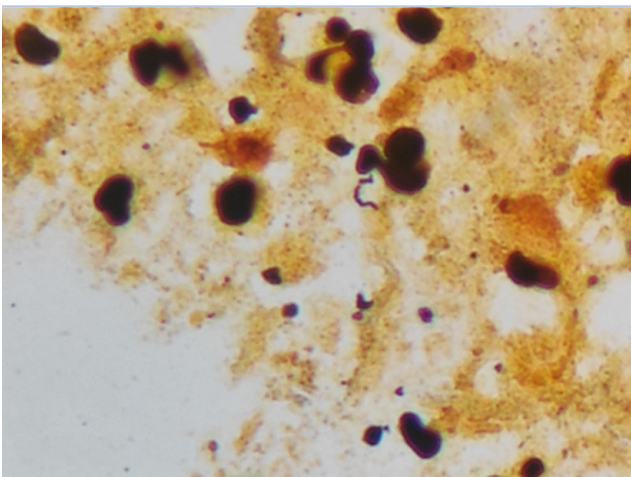


Fig. 3: Warthin starry stain positive for bacilli

3. Discussion

Cat scratch disease (CSD) is a common zoonosis in children caused by *Bartonella henselae* (*B. henselae*) which is transmitted through cat bites or scratches.⁴ This organism was first described by Henri Perinaud in 1889.⁵ Typical CSD, which occurs in 90% of cases, is characterized by low grade fever and subacute regional lymphadenitis following a recent history of cat contact.⁶ Usually a unilateral lymphadenitis near the scratch bite site develops 2-3 weeks after infection, which is usually in the head, neck, axilla, or supraclavicular region. Atypical manifestations include mammary, oculoglandular, hepatosplenic, cardiopulmonary, central nervous system, and bone involvement. The disease has a self-limited course and usually resolves without the use of antibiotics.⁷ However, immunosuppression is a known risk factor for the development of serious and atypical forms of disease.

There are very few reports of CSD in SLE patients. In immunocompromised patients there can be local or systemic complications including suppurative lymphadenitis, retinitis, endocarditis and hepatosplenic disease.¹ *B. henselae* is a small, aerobic, intracellular gram-negative pleomorphic bacillus, microscopically identified by Warthin-Starry stain. The bacillus is very difficult to grow; hence culture is not routinely recommended. Serological testing is an inexpensive tool to diagnose *B. henselae* with 95% sensitivity and 98% specificity. In the presence of a positive history of cat contact and relevant clinical findings, titers are reliable and sensitive which can lead to prompt diagnosis and initiation of appropriate treatment, thus avoiding unnecessary invasive investigations.⁷

Culture is not reliable for the diagnosis.⁸ Histopathological examination of lymph nodes is crucial for exclusion.⁹ Typical histopathological findings include necrotising granulomas, central microabscesses with neutrophils, rare multinucleate giant cells. Warthin starry and Brown Hopps stains demonstrate small gram negative bacilli.¹⁰ These bacilli are usually distributed focally, with hundreds of organisms in one area and none in others. Differentials include Suppurative lymphadenitis caused by bacteria. Gram stain reveals the microorganisms. In tuberculosis, necrosis is caseous with less nuclear remnants or tissue debris. Acid fast staining can demonstrate the bacilli. Fungal lymphadenitis can show neutrophils, but can be demonstrated using PAS or GMS stains. Lymphogranuloma venereum has similar histologic appearance. Demonstration and identification of microorganisms by IFA and serology are necessary. Kikuchi lymphadenitis lacks neutrophils and definite granulomas. Since our patient was an SLE patient, lupus lymphadenitis was also a differential. SLE lymphadenopathy can show paracortical necrosis, nuclear debris, vasculitis with fibrinoid necrosis. But granulomas and neutrophils are

absent.¹¹ The major criteria for diagnosis of CSD have been exposure to cat bite or scratch, an inoculation site, regional lymphadenopathy, typical histopathology on lymph node biopsy, negative tests for other infections, and a positive delayed hypersensitivity skin test using CSD antigen.

4. Conclusion

In SLE patients presenting with fever and lymphadenopathy, Cat scratch disease should be considered among the differentials. Appropriate investigations need to be done as this is a treatable condition and a course of antibiotics resolves the disease.

5. Conflict of Interest

None.

6. Source of Funding

None.

References

1. Aguiar F, Martins-Rocha T, Rodrigues M, Brito I. Seronegative cat scratch disease in a patient with systemic lupus erythematosus. *Acta Reumatol Port.* 2018;43(3):241–2.
2. Asano S. Granulomatous lymphadenitis. *J Clin Exp Hematop.* 2012;52(1):1–16. doi:10.3960/jslrt.52.1.
3. Bass JW, Vincent JM, Person DA. The expanding spectrum of Bartonella infections: II. Cat-scratch disease. *Pediatr Infect Dis J.* 1997;16(2):163–79.
4. Kaiser PO, Riess T, O'rourke F, Linke D, Kempf VA. Bartonella spp.: throwing light on uncommon human infections. *Int J Med Microbiol.* 2011;301(1):7–15. doi:10.1016/j.ijmm.2010.06.004.
5. Jerris RC, Regnery RL. Will the real agent of cat-scratch disease please stand up? *Annu Rev Microbiol.* 1996;50:707–25. doi:10.1146/annurev.micro.50.1.707.
6. Carithers HA. Cat-scratch disease; notes on its history. *Am J Dis Child.* 1970;119(3):200–3. doi:10.1001/archpedi.1970.02100050202002.
7. Maritsi DN, Zarganis D, Metaxa Z, Papaioannou G, Vartzelis G. Bartonella henselae Infection: An Uncommon Mimicker of Autoimmune Disease. *Case Rep Pediatr.* 2013;p. 726826. doi:10.1155/2013/726826.
8. Agan BK, Dolan MJ. Laboratory diagnosis of Bartonella infections. *Clin Lab Med.* 2002;22(4):937–62. doi:10.1016/s0272-2712(02)00017-3.
9. Rolain JM, Lepidi H, Zanaret M, Triglia JM, Michel G, Thomas PA, et al. Lymph node biopsy specimens and diagnosis of cat-scratch disease. *Emerg Infect Dis.* 2006;12(9):1338–44.
10. Cotter B, Maurer R, Hedinger C. Cat scratch disease. An epidemiological and ultrastructural study of lymphadenitis caused by Warthin-Starry positive bacteria. *Virchows Arch A Pathol Anat Histopathol.* 1986;410(2):103–6. doi:10.1007/BF00713512.
11. Ioachim HL, Medeiros LJ. Ioachim's Lymph Node Pathology, 4edn. Wolters Kluwer; 2009. p. 110–4.

Author biography

Lakshmi K, Consultant

Rachel Abraham, Consultant

Cite this article: Lakshmi K, Abraham R. Catscratch disease in an SLE patient -A case report. *IP J Diagn Pathol Oncol* 2023;8(3):178-180.