

## Case Report

### Case report on Parinaud's oculoglandular syndrome; a presentation of cat scratch disease

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#### Abstract

Cat scratch disease is an infectious disease caused by *Bartonella* species. Usually a self-limited illness, cat-scratch disease rarely gets reported. This case report describes about a patient admitted with clinical features of Parinaud's oculoglandular syndrome – an atypical clinical presentation cat scratch fever - which was treated successfully with antibiotics.

#### Introduction

Cat-scratch disease (CSD) has two general clinical presentations. Typical CSD, the more common, is characterized by subacute regional lymphadenopathy while another form called atypical CSD is the collective designation for numerous extranodal manifestations involving various organs. *Bartonella henselae* is the principal etiologic agent of CSD. Rare cases have been associated with *Afipia felis* and other *Bartonella* species. Person-to-person transmission does not occur. Apparently healthy cats constitute the major reservoir of *B. henselae*, and cat fleas (*Ctenocephalides felis*) may be responsible for cat-to-cat transmission. CSD usually follows contact with cats, but other animals (e.g., dogs) have been implicated as possible reservoirs in rare instances (1). In the United States, the estimated annual disease incidence is 4.7 per 100,000 persons less than 65 years of age. The highest rates of outpatient diagnoses and inpatient admissions for CSD occur among children 5–9 years of age (2). Globally The annual incidence of CSD is between 2.4-2.7 per 100,000 persons (3).

#### Case presentation

This 21-year-old unmarried lady, known patient with juvenile Idiopathic arthritis (Since the age of 06 years), was admitted with complaints of fever of 04 days duration and red discolouration of left eye. She also had dry cough which by the time of

admission had subsided. She did not have any joint pain, rashes or oral ulcers during this presentation. She complained of excessive watering from the eye but did not have any purulent eye discharge. Her urine output, and bowel opening were normal. She did not have any allergy history. Her mother was a Chronic Kidney Disease patient and other than that there was no significant family history. She has a cat and a dog as pets in her home.

On examination, she was found to have red discolouration of left conjunctiva (Figure 1). There was 1 cm x 1 cm tender lymph node at left posterior cervical region. She was haemodynamically stable, lungs were clear, and abdomen was soft without any organomegaly.

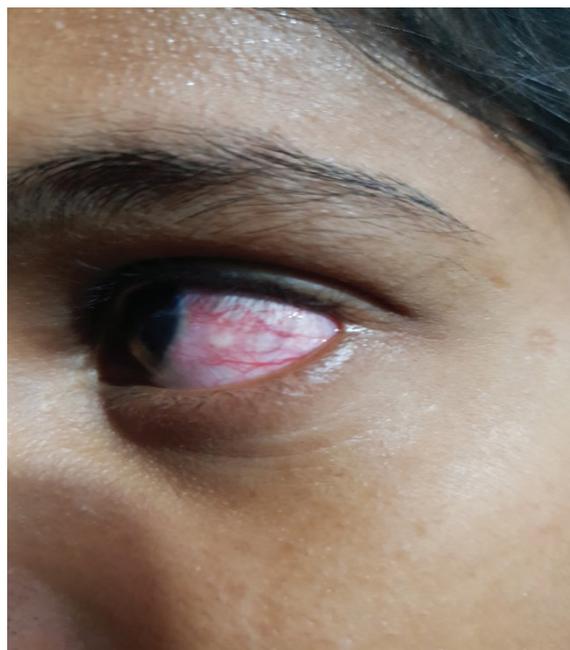


Figure 1: Red discolouration of Left conjunctiva of the patient

Her Full Blood Count (FBC) showed neutrophil leucocytosis (White Blood Cells (WBC) – 1055/  $\mu$ L; Neutrophil(N) -7160/  $\mu$ L) with hypochromic microcytic anaemia (Hb -9.7 g/dL) and mild degree of thrombocytosis (Platelets – 475000/  $\mu$ L). Eryth-

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rocyte Sedimentation Rate (ESR) was 54 mm/1<sup>st</sup> hour. C – Reactive Protein (CRP) was 32.7mg/L. Serum albumin was found to be 32 g/L. Urine Full Report (UFR), Serum creatinine, Blood urea, Serum electrolytes and Liver transaminases were normal. Chest X-ray was normal.

Clinical diagnosis of Parinaud's ocular glandular syndrome was made. Serological studies to isolate organism or antibody detection not done due to the non-availability of the investigations. She was referred to ophthalmologist and eye related complications such as neuroretinitis were ruled out.

She was treated with Oral Clarithromycin 500mg b.i.d and after that her symptoms improved and inflammatory markers came down (WBC – 9430/  $\mu$ L; N – 6360/  $\mu$ L, CRP – 12.5mg/L). she was discharged on Day 5 with remaining course of antibiotics.

## Discussion

Although cat scratch disease is relatively a disease of tropics, there are only few case reports available in Sri Lanka. As most are self-limiting, patients seldom seek medical advice for the symptoms. And still there are possibilities that these symptoms are mistaken for viral illness or other atypical infections and treated.

Atypical CSD occurs in 10–15% of patients as extra-nodal or complicated disease in the absence or presence of lymphadenopathy. Atypical disease includes Parinaud's oculoglandular syndrome, granulomatous hepatitis or splenitis and neuroretinitis (1). The vitreoretinal manifestations include anterior uveitis, vitritis, focal retinal vasculitis, a characteristic retinal white spot syndrome, Bartonella retinitis, branch retinal arteriolar or venular occlusions, focal choroiditis, serous retinal detachments, and peripapillary angiomatous lesions (4). In addition, neurologic involvement (encephalopathy, seizures, myelitis, radiculitis, cerebellitis, facial and other cranial or peripheral palsies), debilitating myalgia, arthritis or arthralgia, osteomyelitis, tendinitis, neuralgia, and dermatologic manifestations (including erythema nodosum, sometimes accompanying arthropathy) occur. Other manifestations such as pneumonitis, pleural effusion, idiopathic thrombocytopenic purpura, Henoch-Schonlein purpura, erythema multiforme,

hypercalcemia, glomerulonephritis and myocarditis have also been associated with CSD (1).

Parinaud's oculoglandular syndrome is reported in around 8 percentage of patients with CSD (5). It is characterized by tender regional lymphadenopathy of the preauricular, submandibular or cervical lymph nodes associated with infection of the conjunctiva, eyelid or adjacent skin surface. Usual complaints include unilateral red eye, foreign body sensation, and excessive watering of the eyes (6). Due to similar ocular findings in bacterial or viral conjunctivitis, Parinaud's oculoglandular syndrome is often misdiagnosed by the primary care provider (5).

A history of cat contact, a primary inoculation lesion, and regional lymphadenopathy are highly suggestive of CSD. A characteristic clinical course and corroborative laboratory tests make the diagnosis very likely. Routine laboratory tests usually yield normal or nonspecific results. PCR of pus aspirated from lymph nodes or the primary inoculation lesion is highly sensitive and specific and is particularly useful for definitive and rapid diagnosis in seronegative patients. PCR of a lymph node biopsy specimen may be less sensitive, perhaps because of sampling error. (1)

Treatment regimens are based on only minimal data. Suppurative nodes should be drained by large-bore needle aspiration and not by incision and drainage in order to avoid chronic draining tracts. Antibiotic treatment in Typical cat-scratch disease is not routinely indicated except for immunocompromised patients who must always be treated with systemic antimicrobials (1). Erythromycin/azithromycin, ciprofloxacin, gentamicin, rifampicin and Trimethoprim-Sulfamethoxazole are the drugs used to treat (7). Doxycycline with Rifampicin is used in case of severe forms of atypical CSD (1).

The prognosis for complete recovery in immunocompetent patients with CSD is excellent. Significant morbidity occurs in 5–10% of cases, usually because of involvement of the central or peripheral nervous system or because of multisystem disseminated disease. One episode of cat-scratch disease confers lifelong immunity to all patients (8).

Prevention of this illness is mainly by avoiding contacts with cats. Cat to cat transmission could be reduced by eradicating cat fleas.

## Consent

Informed consent was obtained from the patient.

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