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Mystery Rash: Atypical Presentation of Suspected Cat-Scratch Disease in Primary Care

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Keywords

Cat Scratch Disease, Primary Care, Atypical Rash, Lymphangitis

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Mystery Rash: Atypical Presentation of Suspected Cat-Scratch Disease in Primary Care

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1. Introduction

Cat-scratch disease (CSD) is a self-limited infectious disease caused by a gram-negative facultative intracellular anaerobe *Bartonella henselae*.¹ With annual incidence of approximately 4.5 per 100,000 patient population,² CSD is transmitted to humans via cat scratches or bites, or through its primary vector, the cat flea *Ctenocephalides felis*. Most patients present with tender papular lesions and regional lymphadenitis. Less common dermatological manifestations including cutaneous vasculitis and thrombocytopenic purpura account for fewer than 5% of all cases.³ Herein we sought to present an early presentation of cat-scratch disease with painful lymphangitis and mysterious ecchymosis.

2. Case presentation

52-year-old female with a past medical history of hypertension and end-stage renal disease on hemodialysis presented to the clinic with a 3 day history of pruritic rash on the anterior aspect of her right leg after sustaining cat scratch 1 week ago. The skin changes began with erythema, swelling, and increased local temperature which spread proximally, associated with fever, fatigue, and chills. Physical exam was remarkable for a markedly tender erythematous rash in upwards tracking fashion noted along the medial aspect of right lower leg. In addition, a diffuse, pruritic, non-blanchable, non-palpable ecchymosis was localized to the anterior aspect with non-pitting edema. There was no obvious palpable popliteal or inguinal lymphadenopathy. Complete blood count with differential

was within normal limits. Patient was treated with 5 day course of azithromycin. Subsequent follow up visit at day 11 revealed a complete resolution of rash and symptoms.

3. Discussion

Cat-scratch disease (CSD) is a common infection with a worldwide distribution.^{4,5} Whether a scratch or bite from an infected cat, or from exposure to cat fleas infected with *B. henselae*, humans may become infected as incidental hosts.^{6,7}

Representing 85–90% of cases, “typical CSD” involves a primary cutaneous papule or pustule that develops after animal contact, lasting for up to 3 weeks. Regional lymphadenopathy is the hallmark, specifically ipsilateral and proximal to inoculation site. Lymphangitis is common in early CSD presentation, but is not specific and can be present in other animal bites.⁸ In Image 1A, erythema can be visualized over the patient's posteromedial lymphatic pathway. The lymph nodes are generally tender and occasionally suppurate, and can persist for months without appropriate treatment. On the other hand, atraumatic diffuse ecchymosis is not commonly reported in patients with CSD, as seen in our patient. There have been rare cases of CSD with secondary non-blanching palpable rash consistent with vasculitis and thrombocytopenia purpura, and, if untreated, can lead to rare complications including infective endocarditis.¹⁰ Our patient did not exhibit such features and had normal platelet count.

In a patient presenting with regional tender lymphadenopathy, it is encouraged that providers ask about recent cat or flea contact. With this history,

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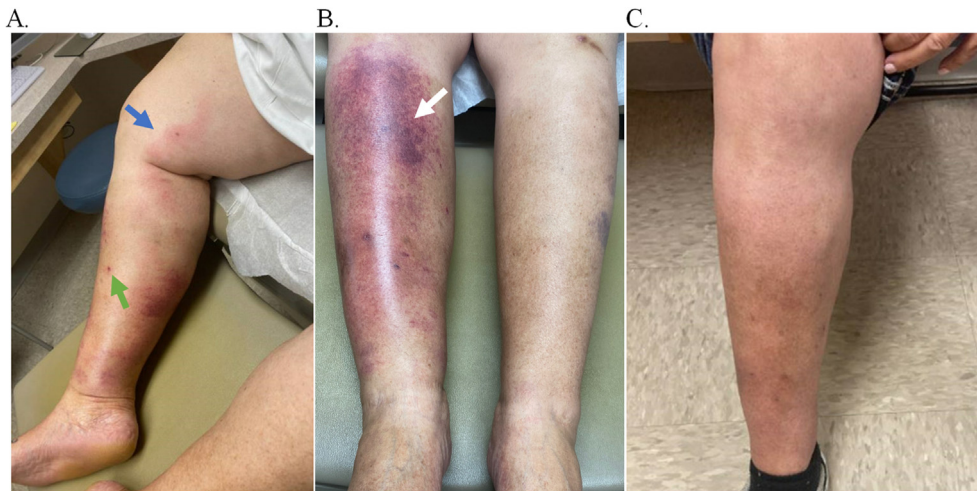
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plus characteristic clinical features, a probable diagnosis of CSD can be made. Epidemiology played a major role in our suspicion of CSD. Serologic testing and lymph node or tissue biopsy are not routinely

performed. Necrotic bite wounds should prompt debridement, irrigation, and drainage.⁸ Although most outcomes are benign with self-limiting disease, oral azithromycin is the agent of first choice.⁹

Image 1:



- A. Right lower extremity at the time of presentation. Site of scratch is noted (green arrow). Ascending lymphangitic streak can be seen traveling proximal from the site of inoculation (blue arrow).
 B. Closer view of right medial lower extremity at time of presentation. Non-blanching purpuric rash visualized on anterior aspect of right lower leg (white arrow).
 C. Resolution of skin lesions 11 days after presentation.

Conflicts of interest

No conflict of interest.

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