Case Report / Olgu Sunusu

Atypical and Long-term Manifestation of Cat Scratch Disease with Axillary Lymphadenopathies

Kedi Tırmığı Hastalığı'nın Aksiller Lenfadenopati ile Atipik ve Uzun Süreli Görülümü

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Özet

Kedi Tırmığı Hastalığı *Bartonella Henselae* tarafından oluşturulan, yavaş ilerleyen ve benign bir hastalıktır. Lenfadenopati ve dermal lezyonlar hastalığın klinik oluşumunda sıkça görülür. Birçok hastanın hikâyesinde bir kediye dokunma vardır. Ne var ki, teşhis için yanılgılara neden olabilecek belirsiz hikâye ile karışık klinik bulgular ve belirtiler olabilir. Bu sunumda, aksiller lenfadenopatileri olan ve başka hastalıkları düşündüren fakat patolojik olarak kedi tırmığı hastalığının teşhis edildiği bir hasta bildirilmiştir.

Anahtar Kelimeler: Kedi Tırmığı Hastalığı; lenfadenopati; çocuk; Bartonella

Abstract

Cat Scratch Disease is a slow progressing and benign disease caused by *Bartonella Henselae.* Lymphadenitis and dermal lesions have usually been the clinical presentations of the disease. In most patients' history, there may be handling a cat. However, conflicting clinical findings with uncertain history and symptoms may be present which consequently causes misdiagnose. Here, we present a patient we evaluated for axillary lymphadenopathies suggesting other diseases than cat scratch disease but surprisingly diagnosed as cat scratch disease after pathologic examination.

Key words: Cat Scratch Disease; lymphadenopathy; children; Bartonella

Introduction

Cat Scratch Disease (CSD) is especially seen in childhood and can be defined as a sub acute, regional lymphadenitis syndrome (1). *Bartonella henselae* is the pathogen microorganism and animals like cats are transporters of the disease (1). In typical clinical form, CSD progresses with a benign, subacute, self-limiting primary lesion after a dermal trauma like scratch or bite (2). This begins in three to five days and then maculae remain for two to three months (2). Unilateral single enlarged adenopathy occurs and lasts for two to three months (2).

Although clinical manifestation is benign, more than 2000 hospitalizations per year were reported in the USA (3). This may be because of atypical clinical findings or need of differentiation from malignant lymphadenopathies or other infectious diseases (4).

We decided to report this case because of the atypical progression of the disease that caused confusion. Although we investigated CSD in patent's history, disease could not be diagnosed before pathologic examination.

Case Presentation

Five years old girl was referred to our pediatric surgery clinics with right axillary lymphadenopathy. Patient had not had fever, tiredness or loss of appetite. There was no dermal lesion on her right arm and parents could not define a cat that their daughter touch but explained it as a probability because of their circumstances. Patient did not experience any type of dermal disease in a year. Lymphadenopathy appeared 3 or 4 months ago and grew slowly (Figure-1). In physical examination, there were no other lymphadenopathies and dermal lesions. Other examinations were normal. Laboratory findings were also normal. For a precise diagnose, biopsy was decided in operating theatre circumstances (Figure-2).

Two lymph nodes were excised and dissected for macroscopic evaluation and lesions located in the nodule were seen (Figure-3).

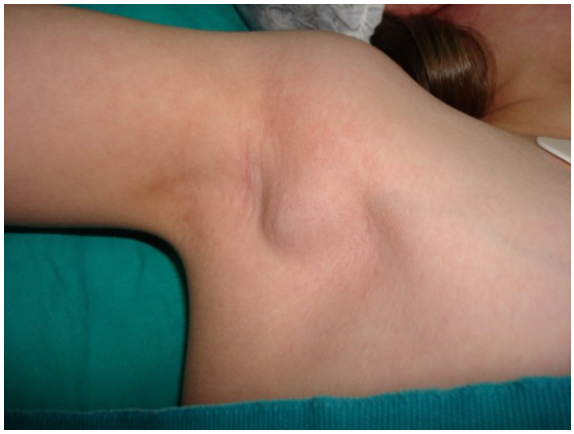

Figure-1: Axillary lymph node conglomeration photographed just before biopsy.

After the pathologic evaluation central necrosis in the granulomatous lesions were seen (Figure-4a). Polimorphonuclear leucocytes were also seen in this central necrosis (Figure-4b). Cat scratch disease was diagnosed by pathologic definition and patient was followed up without any therapy. After 2 year follow up she had no suffering and new lymphadenopathy.

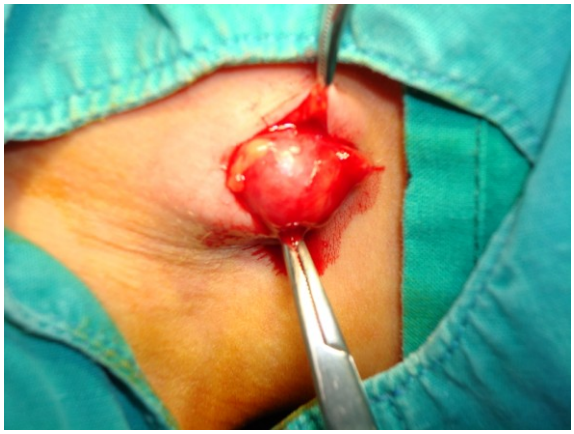

Figure-2: Peroperative visualization of lymph nodules

Discussion

CSD was first seen in 1950 and after then three microorganisms; *Bartonella henselae, Bartonella clarridgeiae* and *B. Quintana,* were found to be responsible for the disease (2). Now it is also known that *Bartonella henselae* causes most of the disease (2). Incidence of CSD is 9,3

/100000 per year (1). The lowest seroprevalence of healthy people is in USA; 2-6% and the highest one is in Bahrain; 16% (5). The disease is usually involves children and adolescent but can be seen at any age (3, 6). Epidemiologically, 87-99% of patients were associated with the cat scratch (6). Cats are the reservoirs for the disease and may transfer it by scratch and bite (5). Cat fleas may be acting on an indirect way of transferring the microorganism (5). In our case, although we were aware of the possibility of CSD and parents were cautious about their child for the possibilities of wild or domestic animal related diseases, we could not clarify cat scratch.

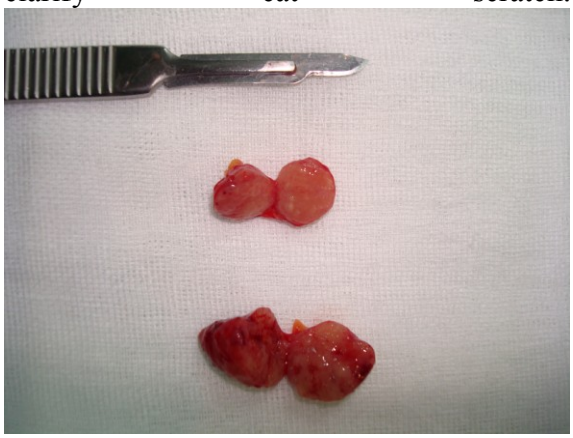

Figure-3: Postoperative two lymph nodules dissected. Note the multiple lesions located in these nodules

In clinics, CSD is usually seen with a benign lymphadenitis (3, 6). Firstly, in its typical form, erithematous papulae or pustule forms 3-12 day after the scratch at the same region and primary lesions are usually at 2-10 mm diameter (5). The lesion recovers within 2-4 weeks without any scar formation (3, 5). Then, at the 90% of the patients, lymphadenopathy forms 1-7 weeks after the contact of the microorganism (3, 5). Lymphadenopathy is ipsilateral and has no pain (5). Nearly one third of the patients suffer from long lasting fever and tiredness (3). Also, lymphadenopathy may be detected for as long as 24 months (3). Sometimes it can be difficult to cure the disease although multiple surgical and antimicrobial therapies performed (6).

Our patients suffered neither from dermatitis lesions like maculae, papules nor fever or tiredness.

Additionally, lymphadenopathy was seen 3 or 4 months before the examination which continued gradually and slowly growing. We did not need other treatments after surgery and patient recovered.

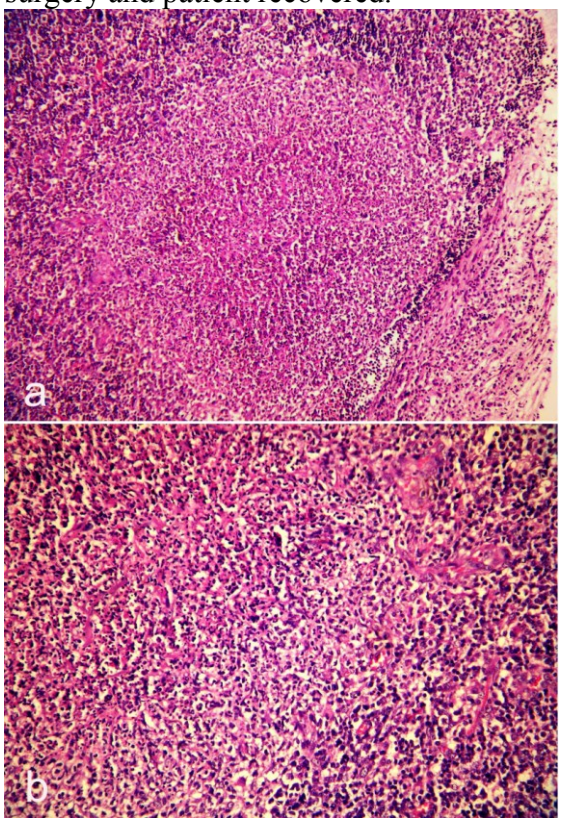

Figure-4a: Panaromic view of the granulomatous lesion located in the cortex containing central necrosis (HE, X5), b: Necrosis formation with polymorphonucleer leukocytes in the central location of granuloma (HE, X20)

To differentiate the diagnosis, causes of lymphadenopathy have to be evaluated (6). These may be pyogenic and *Toxoplasma gondii* lymphadenitis, atypical mycobacterial infection, hematological and solid-organ malignancies, tularemia, and brucellosis (6). We wanted to be cautious about lymphoma and, as other laboratory tests were negative, we performed biopsy quickly. After the biopsy we did not perform microbiological laboratory tests especially to isolate a microorganism.

Bartonella species can rarely be isolated for tissues (3). *Bartonella* can be diagnosed by demonstrating specific antibodies indirectly (5). Direct diagnoses are histopathological evaluation of the

specimen, demonstration the genetic material and isolation the bacteria (5). Experienced pathologists can make a diagnosis with hematoxylin and eosin staining (2). At the early stage, lymphocyte infiltration and epithelial granulomatous lesions are look like lymphoma or sarcoidosis (1). After early stages, granulomatous infiltrates with central necrotic area and lymphocytes, histiocytes and neutrophils are detected characteristically (2). As a diagnostic clue, the presence of leukocytes and leukocytoclasis in the interstitial lobule of the nonulcerated lesions may be used (2). Pathological evaluation of the patient was same as the definition show in the figure-4a and 4-b. After this finding, we did not need to perform any other tests.

Antimicrobial chemotherapy of CSD is a controversial entity. It can be preferred to prevent patients from complications in the early stage of the disease if patients have lymphadenitis with pain and if this type of lymphadenitis is treated with fine needle aspiration (5). However, some author says that there is no benefit from using antimicrobial treatments (6). Usually, symptomatic treatment is enough and if the diagnosis can be provided without excisional procedure, disease will spontaneously regress in 2 or 4 months (1).

If typical symptoms of CSD are detected, patients can be followed up by routine controls, but as in our patients, if atypical manifestations are seen, performing biopsy cannot be claimed as a fault. Consequently, patients may benefit from this type of manipulation with total recovery. We suggest that biopsy may be accepted as a direct way treatment.

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