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CASE REPORT

Acute arthritis as initial presentation of sarcoidosis: Significance of chest X-ray

Akut artritle presente olan bir sarkoidoz vakası: Akciğer grafisinin önemi

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ABSTRACT

Sarcoidosis is a multisystem granulomatous disease that predominantly affects the lungs. It usually presents with fatigue and respiratory findings. The rate of arthritis in sarcoidosis is 15-25%. Arthritis as initial manifestation of sarcoidosis has been reported rarely in the literature. In present paper we highlighted the importance of sarcoidosis and conventional chest X-ray in differential diagnosis of acute arthritis. *J Clin Exp Invest 2012; 3(1): 102-104*

Key words: Acute arthritis, sarcoidosis, conventional chest X-ray

ÖZET

Sarkoidoz, genellikle solunum sistemini etkileyen multisistemik, granülomatöz bir hastalıktır. Sıklıkla halsizlik ve solunum sistemi bulguları ile başlar. Sarkoidozda artrit sıklığı %15-25 arasında değişir. Sarkoidozda başlangıç bulgusu olarak artrit literatürde nadir olarak bildirilmiştir. Bu yazıda akut artritin ayırıcı tanısında sarkoidozun ve konvansiyonel akciğer grafisinin önemine vurgu yaptık.

Anahtar kelimeler: Akut artrit, sarkoidoz, konvansiyonel akciğer grafisi

INTRODUCTION

Sarcoidosis is a multisystem autoimmune disease of unknown etiology and manifested by the presence of noncaseating granulomas in affected organ tissues. It predominantly affects lungs, skin, lymph nodes, eyes, parotid glands, bones, joints, liver and kidneys.[1] The histopathology of sarcoidosis involves noncaseating granulomas, lymphocytes and multinuclear giant cells surrounded by macrophages.[2] Symptoms and findings go into spontaneous remission but systemic corticosteroids are indicated in patients with hypercalcemia and critical organ involvements such as advance pulmonary involvement, cardiac and neurologic manifestations, posterior uveitis.[2]

The musculoskeletal manifestations of sarcoidosis include sarcoid myopathy, osseous and osteolytic lesions, (mainly localised in the bones of hand and foot) and acute and chronic polyarthritis which is symmethrical predominantly affecting knee, wrist, ankle and rarely sacroiliac joints.[3] The onset of joint findings varies between 3 weeks and 13 years.[4] The diagnosis of sarcoidosis is usually late in patients presenting with arthritis because the disease frequently presents with pulmonary symptoms.

In our paper, a 29-year-old female with sarcoidosis initially manifested by acute peripheral arthritis is presented.

CASE

A 29-year-old woman referred to the emergency department with generalized pain and swollen and painful joints of hand and foot. She has never experienced such a disease before. The duration of the symptoms was 2 weeks with a morning stiffness lasting 30 minutes and with pain relieved by rest. The pain was also aggravated by exercise and not affected by temperature. The physical examination of the patient was otherwise normal.

Bilateral wrist, ankle, metacarpophalangeal (MCP), proximal interphalangeal (PIP), metatarsophalangeal (MTP), knee and elbow joints were swollen and painful to touch. Shoulders range of motion (ROM) was restricted with no effusion. Lumber spine range of motion was painful but not restricted in extension, flexion and lateral flexion.

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Cervical spine ROM was normal and pain-free. The neurological examination was normal. Laboratory findings were as follows: hemoglobin:8.92 g/dl, calcium:8.8, erythrocyte sedimentation rate (ESR) 73 mm/h, rheumatoid factor (RF):>8.6 mg/dl, C-reactive protein (CRP):8.8 mg/dl (reference value<0.5), brucella coombs negative, hepatitis B,C markers negative, HIV markers negative, EBV markers negative, anti-CCP negative, ANA positive, and fecal occult blood test was negative. Abdominal US was normal. MIP (Maximum intensity projection) images were formed by taking both T1A, T2A axial, STIR and T1 coronal sequences and post-contrast fat-saturated T1A sequences for the differential diagnosis of early rheumatoid arthritis. Minimal contrast uptake was detected in synovium of dorsal intercarpal joints. FMF gene mutations were not detected at all. Non-steroid anti-inflammatory medications and tricyclic antidepressant drugs were given as a treatment.

The two weeks follow-up results were as; ESR 46 mm/h and CRP 1.01 mg/dl. She had minimal joint swelling and pain and mild fatigue. She was discharged with follow-up of every 3 months.

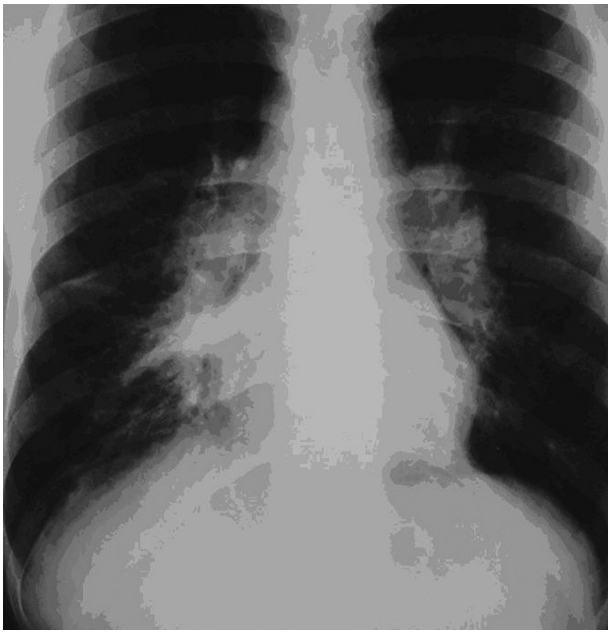

Figure 1. Bilateral hilar lymphadenopathies on chest X-ray

Nine months later she presented with productive cough and weight loss. At the first presentation chest X-ray was not performed because she was free of pulmonary symptoms. Bilateral hilar lymphadenopathies and nodular lesions in upper zone of the lungs were detected on chest X-ray (Figure 1) and lung CT scan taken after consultation with a chest physician. Spirometry showed moderate restrictive pattern and PPT (purified protein test) was negative. Trans-bronchial needle aspiration biopsy showed granulomatous inflammatory findings with histiocytes, mature and transformed lymphocytes.

She was then diagnosed with sarcoidosis and 20 mg/day prednisolon treatment was given for 3 months. After improvement of her symptoms, she was followed up every three months in Pulmonology Department.

DISCUSSION

Reports of symptoms in sarcoidosis similar with those in rheumatological diseases have been increasing. Many sarcoidosis cases coinciding with or resembling ankylosing spondilitis, rheumatoid arthritis or SLE have been reported.[5]

Sarcoidosis more frequently coincides with rheumatoid arthritis among other rheumatological diseases although the reason is unknown.[6]

Inflammatory arthritis, periarticular soft tissue swelling, tenosynovitis, dactylitis, bone involvement (osteoid) and myopathy are among the rheumatological manifestations of sarcoidosis. Acute arthritis in sarcoidosis is self-limited and does not cause joint damage. Chronic arthritis is less frequent and disabling. Proliferative and inflammatory changes occur in synovium with non-caseous granulomas in 50% of them.

Osteoarticular involvement in sarcoidosis is divided into two groups: Löfgren's syndrome and Sarcoid rheumatism. Löfgren's syndrome characterised by bilateral hilar lymphadenopathy and erythema nodosum is frequently seen in younger population. Oligoarticular involvement in ankle and upper extremity joints is more frequent and accompanied by high CRP. Sarcoid rheumatism is more frequent in elderly and oligoarticular in 32%, poliarticular in 32%, erosive in 14% and osteoid in 16%. Interstitial lung involvement is more frequent and rheumatoid factor is positive in chronic poliarticular form. Erosions are more often seen in distal small joints. Sarcoid rheumatism is the most common reason for hospitalization.[7] Joint symptoms were acute, peripheral and symmetric in our case with no other symptoms at all. Those symptoms suggested Sarcoid rheumatism although they were nonspecific.

Genetic and environmental factors take place in the pathogenesis of sarcoid arthritis even though it is not precisely explained.[8]

There are not any diagnostic laboratory tests for sarcoidosis. Anergy, high ESR, high ACE level, hyperglobulinemia, hypercalcemia and hypercalciuria suggests sarcoidosis.[1] Laboratory findings were normal in our case except high ESR, high CRP and mild anemia. Synovial fibrin deposition, synovial hypertrophy and hyperplasia are seen in arthritis of sarcoidosis.[4]

Because of the absence of pulmonary symptoms at first presentation and follow-up period of our case we did not perform chest X-ray and consider sarcoidosis as a diagnosis. Ignorance of chest X-ray in this case is our mistake. We emphasized the importance of chest X-ray in patients with arthritis even without pulmonary symptoms.

The course and prognosis of the disease is related to the onset. Spontaneous remission is frequently seen in abrupt onset but progressive fibrosis is more common in insidious disease. Treatment indications in sarcoidosis are controversial because some patients do not need any treatment. Spontaneous remission occurs in the first year of the disease.[9] It is suggested that systemic steroid treatment has not affected the progression and the relapse of the disease in the long term.[10] Because of that, only patients with chronic or progressive pulmonary or extrapulmonary disease are treated.[11] Nonetheless, there are reports suggesting treatment with NSAIDs, corticosteroids, colchicine, antimalarials or immunosuppressive agents in sarcoid arthritis.[7] Joint symptoms of our patient have been reduced by NSAIDs (indomethazine).

We aimed at raising awareness about rheumatological findings and signs at the presentation of sarcoidosis. Although the presentation of sarcoidosis is frequently with pulmanory symptoms, joint symptoms are common and could be presenting symptoms. The disease may be confused with other rheumatological and autoimmune diseases.

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