

Lofgren's syndrome – A case report

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Abstract

Lofgren's syndrome is an acute form of sarcoidosis, characterized by the triad of polyarthritis, hilar adenopathy and erythema nodosum. Here, we report a 41-year-old male who presented with polyarthralgia and reddish rash all over the body. Skin biopsy revealed the reddish rash to be erythema nodosum. Chest imaging showed enlarged multiple mediastinal lymph nodes. Endosonic fine needle aspiration of mediastinal lymph node showed non-caseating granulomas consistent with sarcoidosis.

Keywords

Lofgren's syndrome; sarcoidosis; Skin biopsy

Introduction

Lofgren's syndrome is characterized by the triad of acute polyarthritis, hilar adenopathy and erythema nodosum. It is an acute form of sarcoidosis [1]. It is a self-limiting disease with a very good prognosis [1]. Non steroidal anti-inflammatory drugs (NSAIDs) and steroids along with supportive care and close monitoring, remains the mainstay for treatment [1].

Case Report

A 41-year-old male presented with multiple joint pain and swelling of 3 weeks duration. Ankles, knees, wrist, proximal interphalangeal and metacarpophalangeal joints were involved. There was associated fever with reddish colored rashes all over the body since 3 weeks. He gives history of heaviness in the chest and weight loss since a month. The patient denied any history of chest pain, cough, breathlessness, headache, syncope, abdominal pain, dysuria, vomiting and eye symptoms. There was no past history of tuberculosis and bronchial asthma.

On examination, the patient was afebrile. Vitals were stable. No axillary / cervical lymphadenopathy. He had significant synovitis around both knees and ankle joints. Systemic examinations were within normal limits.

Hemogram was normal. ESR was high [50mm/hr]. Peripheral smear did not show any abnormal cells. Blood and urine culture did not show any growth. Liver and renal functions were within normal limits.

Serology showed negative RA (Rheumatoid factor), ANA (Anti-nuclear antibody) and ANCA (Anti-neutrophil cytoplasmic antibody) serology. Serum calcium was 9.2 mg/dl.

Skin biopsy of the reddish rash was consistent with erythema nodosum. Chest radiograph showed bilateral hilar prominence. CT chest revealed multiple enlarged mediastinal lymph nodes in paratracheal, pretracheal, subcarinal, prevascular, right and left hilar regions (Figure: 1). Angiotensin converting enzyme level was within the normal range [36 U/L].

Endosonic fine needle aspiration of mediastinal lymph node showed non-caseating granulomas consistent with sarcoidosis (Figure: 2).

The symptoms, clinical findings, imaging and biopsy results in our patient fulfilled the triad of acute polyarthritis, hilar adenopathy and erythema nodosum. Hence, he was diagnosed as Lofgren's syndrome - an acute form of sarcoidosis. The patient was managed with low dose steroids and NSAIDs.

Discussion

In 1953, Sven Lofgren first described Lofgren's syndrome. He studied 212 adult patients bilateral hilar lymphadenopathy. They were practically regarded as sarcoidosis since they did not have active evidence of tuberculosis. Moreover, histopathology evidence of sarcoidosis was obtained through contemporary biopsy techniques in 47% of the cases. Lofgren demonstrated that erythema nodosum was present at the onset of disease in 113 cases in which articular symptoms (either pain in the joints or pain with swelling in the joints) were common.

Lofgren's syndrome is a rare variant of sarcoidosis. A biopsy is often required for definitive diagnosis of sarcoidosis. Other differentials of Lofgren's syndrome include fungal infection, tuberculosis, lymphomas, and bronchogenic carcinoma. The histopathology of the lymph nodes reveals non-caseating granulomas.

Angiotensin converting enzyme level is elevated in 50% of patients [2] with erythema nodosum but is non-specific and can be elevated in hepatitis, lymphomas etc. The ACE levels are mainly used as a follow-up marker for resolution of disease. CT scan of the chest is done to evaluate hilar lymphadenopathy. The syndrome is closely related to HLA-B8 and DR3 in Caucasians [3].

Chest radiographic findings are seen in approximately 90 % of patients with sarcoidosis, of which only 20% would develop chronic lung disease leading to pulmonary fibrosis. Though chest radiograph is widely used for diagnosis, CT is superior in delineating nodal stations and subtle parenchymal changes. The siltzbach staging system for sarcoidosis (Table: 1) based on chest radiographic findings, which was introduced nearly 40 years ago still holds good because of its prognostic value.

The most common pattern is well defined, bilateral symmetric hilar and right paratracheal lymph node enlargement. This typical pattern of lymphadenopathy is referred to as Garlands triad, or 1-2-3 sign or pawn breakers sign on chest radiograph. In sarcoidosis, left paratracheal and aorto-pulmonary nodes are also frequently enlarged but it is difficult to identify these nodes on chest radiograph. Bilateral hilar node enlargement alone or in combination with mediastinal node enlargement occurs in 95% of cases affected with sarcoidosis [4]. Though the differentials include infection (tuberculosis or fungal) and malignancy (lymphoma), sarcoidosis is the most common cause of bilateral hilar lymph node enlargement. Unilateral hilar lymphadenopathy is rare in sarcoid and is seen in only less than 5% of cases. Mediastinal adenopathy without hilar involvement is rare and is more suggestive of lymphoma. Internal mammary and retrocrural lymphadenopathy are more commonly seen in lymphoma. Also lymph nodes

in lymphoma show pressure effect on adjacent structures unlike sarcoid which do not usually abut the cardiac border and this has been proposed as a useful criteria to differentiate lymphoma from sarcoid [5].

Our case can be categorized as stage 1, according to Siltzbach classification, based on the presence of bilateral hilar with mediastinal adenopathy, without pulmonary infiltrates. Lack of parenchymal infiltrates was confirmed by CT scan. Prognosis in such cases with mediastinal adenopathy alone is extremely good as the majority of cases show complete resolution of hilar adenopathy.

NSAIDs are the mainstay of treatment along with bed rest. Steroids can be used in serious arthritis, hypercalcemia, and granulomatous skin lesions [6].

Conclusion

Lofgren's syndrome can present as fever with generalized rash and arthralgia. It is often difficult to differentiate Lofgren's syndrome from viral exanthematous fever. It should be suspected in regard to poor response to antibiotics, typical skin lesions, and presence of arthritis or arthralgia. Lofgren's syndrome has a very good prognosis. In 1999, Mana J et al studied 186 patients with Lofgren's syndrome. Among them, only 8% of patients had significant disease at the end of a 2-year follow-up [7].

Figures

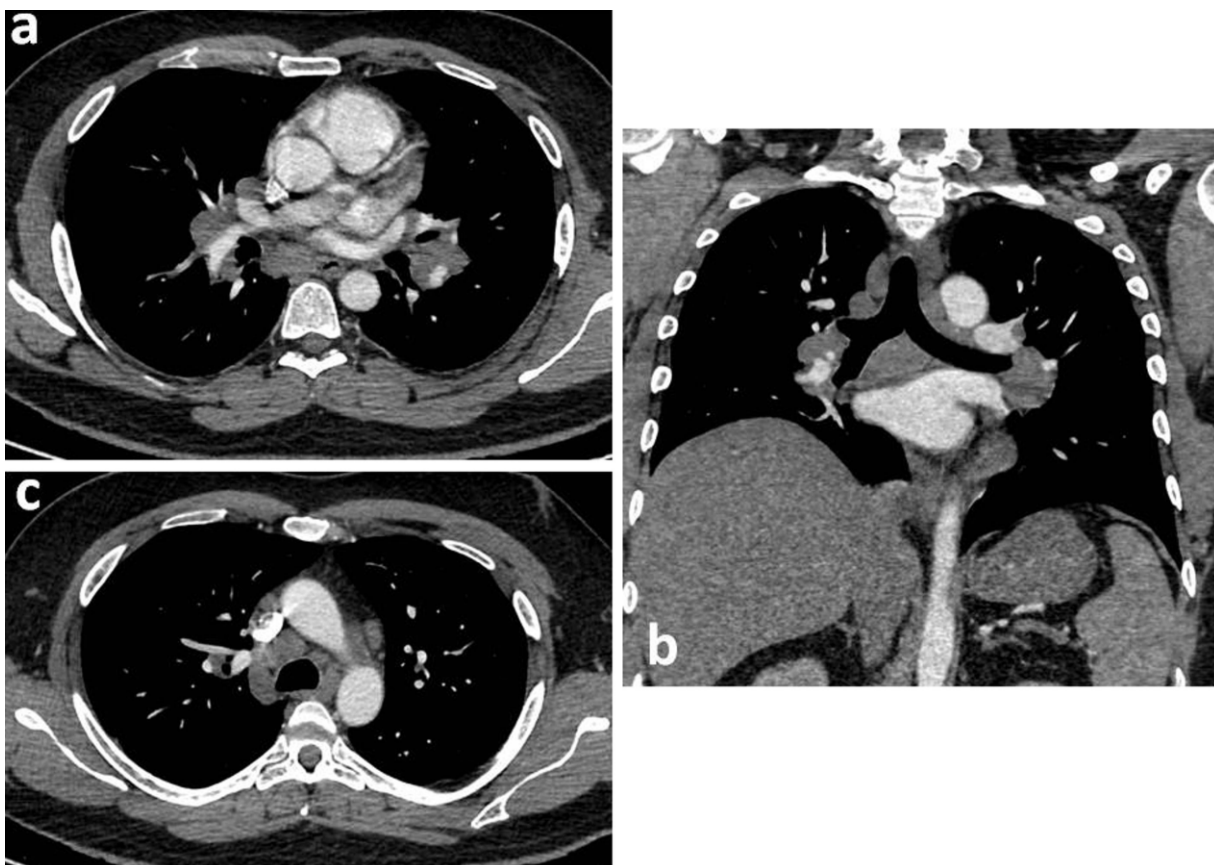


Figure 1: (a) Axial CECT (mediastinal window) at the level of hilum showing bilateral symmetrical hilar with subcarinal adenopathy, (b): Coronal MPR showing symmetric hilar, lower paratracheal and subcarinal adenopathy, (c): Axial CECT at the level of aortic arch showing, bilateral lower paratracheal and subaortic adenopathy

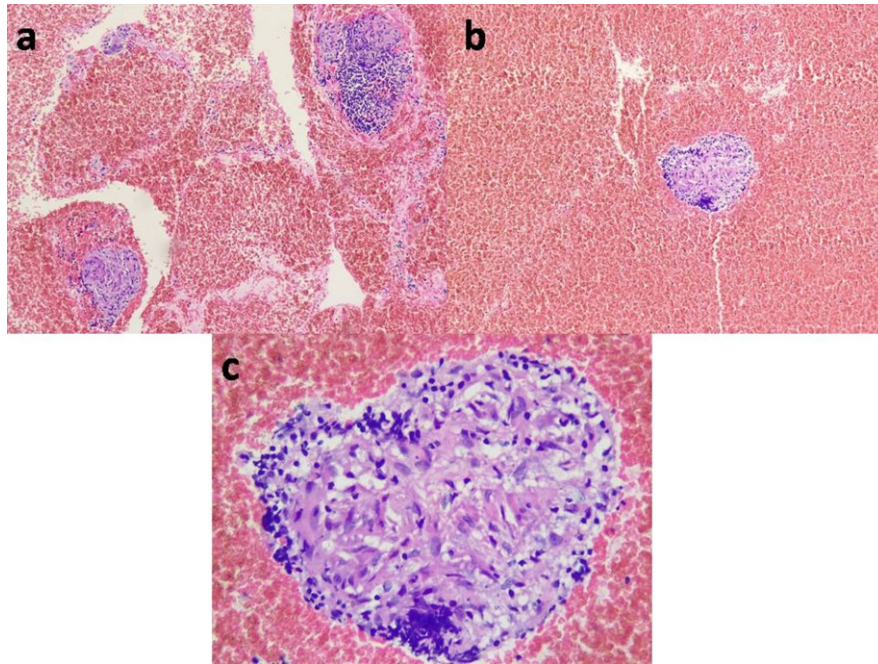


Figure 2: Non-caseating epithelioid granulomas. (a): Cell block, H&E x100; (b): Cell block, H&E x 100); (c): Cell block, H&E x 400

Table

Table 1: Staging of sarcoidosis on the basis of chest radiographs.

Stage 0	No abnormalities	5%-10%
Stage 1	Lymphadenopathy	50%
Stage 2	Lymphadenopathy + Pulmonary infiltration	25%-30%
Stage 3	Pulmonary infiltration	10%-12%
Stage 4	Fibrosis	5% (upto 25% during the course of the disease)

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