Sarcoidosis with Multiple Nodular Shadows in Bilateral Lung Fields

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Sarcoidosis is a disease of unknown etiology which is characterized pathologically by widespread non-caseating granulomas involving multiple organ systems. We report a case of sarcoidosis with multiple nodular shadows in bilateral lung fields. Abnormal shadows were completely disappeared without medication after one six months. (Internal Medicine 34: 1144-1145, 1995)

Key words: sarcoidosis, multiple nodular shadows, transbronchial lung biopsy

Introduction

Sarcoidosis is most prevalent in younger age groups, specifically children and young adults. The lungs and intrathoracic lymph nodes are involved in 90% of all cases. The most common features of the radiographic findings at the time of initial diagnosis includes bronchopulmonary adenopathy. We report a case of sarcoidosis presenting multiple nodular shadows in bilateral lung fields with a roentgenographic appearance minilar to metastatic lung cancer.

Case Report

A 21-year-old man was admitted because of multiple nodular shadows in bilateral lung fields found by chest X-ray during a routine annual check-up. Physical examination on admission did not reveal any abnormality. A complete blood cell count, differential white blood cell count, routine chemistry, arterial blood gases, urinalysis and electrocardiogram (ECG) were normal.

Gammaglobulins were normal as was angiotensin converting enzyme at 27.7 IU/l (<21.4). A chest roentgenogram showed bilateral, multiple, fluffy nodular shadows with bronchopulmonary adenopathy (Fig. 1). A chest computed tomography (CT) showed multiple nodular shadows with bronchopulmonary adenopathy (Fig. 2). Gallium scan showed marked uptake in the lungs corresponding precisely with the nodular lesions.

The total cell count in the bronchoalveolar lavage fluid was $5.3 \times 10^6$/ml and the cell population consisted of lymphocytes (1%), macrophages (10%). The ratio of CD4/CD8 was 1.2.

Transbronchial lung biopsy revealed multiple aggregated non-caseating granulomatous lesions. There were occasional multinucleated giant cells and no acid-fast bacilli (Fig. 3).

Figure 1. A chest roentgenogram showing bilateral, multiple, fluffy nodular shadows with bronchopulmonary adenopathy.
Pulmonary Sarcoidosis with Multiple Nodular Shadows

Figure 2. Chest CT scan showing multiple nodular shadows with bronchopulmonary adenopathy.

Figure 3. Lung biopsy specimen demonstrating noncaseating granuloma. Note Langhan’s-type multinucleated giant cells and epithelioid cells (HE stain, ×400).

At follow-up, a chest CT revealed that the abnormal shadows had completely disappeared without medication after six months (Fig. 4).

Discussion

In Japan, sarcoidosis of the lung is often diagnosed after abnormal chest X-rays are found during a routine health check-up. Bronchopulmonary adenopathy is found in most cases. Recently, Sharma (1) and Kirks and McCormick (2) reviewed lung sarcoidosis with non-typical radiograph images. In 1952, McCord and Hyman (3) reported the first case of sarcoidosis with multiple nodular shadows in bilateral lung fields mimicking metastatic tumors. Rockoff and Rohatgi described the features of sarcoidosis with multiple nodular shadows of one to several centimeters in width, having margins that are usually poorly defined, hazy and fluffy since roentgenologically interstitial sarcoidosis mimics an alveolar pattern (4). Furthermore, they reported that this type of sarcoidosis may or may not be accompanied by bronchopulmonary adenopathy. In patients with multiple nodular shadows, the typical differential diagnosis includes metastatic lung cancer, malignant lymphoma, Wegener’s granuloma and pulmonary mycosis. The prognosis of sarcoidosis with multiple nodular shadows is reported to be good (4). Thus, we followed the generally accepted method of observation when the inflammation reaction was low and lesions were not found in other organs. A follow-up chest CT revealed that the abnormal shadows had completely disappeared without medication after six months. The present case is a very rare case as only 10 similar cases of sarcoidosis with multiple nodular shadows in bilateral lung fields have been documented.

References