Coexistence of Tuberculosis and Sarcoidosis: A continuing dilemma!!!

Vrinda Vijayakumari¹, Thejesh Chikmangalur Vishwanath²*, Durga Krishnan³, Mayilananthi Kaliyannan⁴

1. Assistant Professor, Department of General Medicine, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education, Kelambakkam-603103, Tamil Nadu, India.
2. Postgraduate, Department of General Medicine, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education, Kelambakkam-603103, Tamil Nadu, India.
3. Professor, Department of General Medicine, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education, Kelambakkam-603103, Tamil Nadu, India.
4. Professor, Department of General Medicine, Chettinad Hospital and Research Institute, Chettinad Academy of Research and Education, Kelambakkam-603103, Tamil Nadu, India.

*Corresponding author

Dr. Thejesh Chikmangalur Vishwanath,
Postgraduate,
Department of General Medicine,
Chettinad Hospital and Research Institute,
Chettinad Academy of Research and Education,
Kelambakkam-603103, Tamil Nadu, India.
Phone no:9900770888
E-mail ID:thejeshcv2@gmail.com

Abstract:
Tuberculosis and sarcoidosis are chronic granulomatous diseases which are similar but distinct. In India where tuberculosis is still prevalent, we are likely to encounter patients whose sarcoidosis precede, follow or coexist with tuberculosis. Here we report a case of 64 year old South Indian female with pleurisy and lymphadenopathy who responded to a combination of steroids and anti TB therapy. The case emphasizes coexistence of systemic sarcoid manifestation and tuberculosis which is a clinically under recognized condition in medical literature.

Key-words: Tuberculosis, sarcoidosis, lymphadenopathy

Key Messages: Sarcoidosis and tuberculosis may have similar clinical presentation. Tuberculous sarcoidosis has clinical manifestations of both diseases but the course is different and so also the treatment which is the combinations of steroids in large doses prescribed for the specific treatment of sarcoidosis with anti-tubercular drugs. The suspicion should be raised when the patient fulfils the diagnostic criteria of both tuberculosis and sarcoidosis.

INTRODUCTION:

Tuberculosis and sarcoidosis are chronic granulomatous diseases which are similar but distinct. In India where tuberculosis is still prevalent we are likely to encounter patients whose sarcoidosis precede, follow or coexist with tuberculosis\(^1\). Tuberculous sarcoidosis was first defined and named by Scadding in 1962\(^2\). Mycobacterium tuberculosis as such or its degradation products are postulated as a possible etiological agent for tuberculous sarcoidosis\(^2\). Here we report a case of 64 year old South Indian female with pleurisy and lymphadenopathy who responded to a combination of steroids and anti TB therapy. The case emphasizes coexistence of systemic sarcoid manifestation and tuberculosis which is a clinically under recognised condition in medical literature\(^3\).

CASE HISTORY:

A 64 year old morbidly obese lady with history Type 2 of diabetes, systemic hypertension, hypothyroidism presented with breathlessness and orthopnoea for 2 week duration. She had a history of uterine malignancy which was treated with combined surgery and chemo radiation and was on regular follow up with the oncologist.

On examination, she had tachycardia, tachypnoea, pallor, bilateral pitting pedal edema and right axillary lymphadenopathy. Respiratory system examination revealed right sided pleural effusion. Other systemic examinations were normal. Chest x-ray confirmed right moderate pleural effusion. Laboratory investigations were otherwise normal except normocytic normochromic anaemia with lymphopenia, elevated liver enzymes with A:G reversal. We made a provisional diagnosis of massive right sided pleural effusion secondary to tuberculosis/malignancy.

Diagnostic thoracentesis showed exudative lymphocyte predominant effusion with ADA 40U/L. No acid fast bacilli detected in sputum and pleural fluid. HRCT chest revealed multiple enlarged nodes in bilateral axilla, mediastinum, paraaortic, aorto-caval region with evidence of gross right pleural effusion and compression of right bronchus from nodal mass. Excision biopsy of axillary lymph node showed hyalinised non caseating granulomatous lymphadenitis suggestive of sarcoidosis. Serum ACE levels (97U/L) were elevated. Gene xpert of tissue sample was positive for mycobacterium tuberculosis.

Since the patient had findings of sarcoidosis and positive gene xpert for tuberculosis we started her on Anti tuberculous treatment Category 1 (Rifampicin, Isoniazid, pyrazinamide, ethambutol) and prednisolone 1mg/kg pending culture. Patient improved symptomatically and her pleural effusion resolved. MGIT culture for tuberculosis was negative.

With the findings mentioned above and as per the diagnostic criteria\(^2\) proposed by Shah et al, we diagnosed this case as Tuberculous sarcoidosis. She subsequently achieved a very good response clinically, radiologically, hematologically, and biochemically with 6 months of combined antitubercular drugs & corticosteroid treatment and she remained relapse free afterwards.

DISCUSSION: The clinical manifestations of tuberculosis and sarcoidosis have an overlapping spectra and is sometimes challenging to make a clinical diagnosis\(^3,4\). Both diseases affect lungs primarily and has similar systemic and musculoskeletal manifestations\(^4\) and both can produce non caseating granulomas though tuberculosis is typically associated with caseating granulomas. Mycobacterial tuberculosis or its antigens are now postulated to be etiological agent for sarcoidosis. With the advances in molecular diagnostics we may be able to learn more about the immune responses caused by these antigens\(^5\). The gold standard for diagnosing tuberculosis is microbiological confirmation and while histopathological findings forms basis for sarcoidosis\(^6\). Since PCR can detect dead mycobacteria /its antigens
microbiological culture is necessary to distinguish the two. Though the histopathological hallmark of sarcoidosis is non caseating granuloma, it is postulated that low antigen tuberculous bacteria and poor immune defense mechanism in some patients results in non caseating granulomas. Tuberculous sarcoidosis has clinical manifestations of both diseases but the course is different and so also the treatment which is the combinations of steroids in large doses prescribed for the specific treatment of sarcoidosis with anti tuberculosis drugs. The suspicion should be raised when the patient fulfils the diagnostic criteria of both tuberculosis and sarcoidosis.

In our case, the patient had features of both tuberculosis and sarcoidosis clinically, radiologically and biochemically and she responded to combined ATT and steroids. But since microbiological culture is negative our patient is more likely to have sarcoidosis.

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