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TB OR NOT TB ??: A RARE CASE REPORT OF SARCOIDOSIS

General Medicine

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ABSTRACT

Sarcoidosis is a very rare but highly morbid condition and is often mistaken for other entities and is usually misdiagnosed as tuberculosis in a developing country like India. Here we have reported a case of 40 year old Indian male patient who was misdiagnosed as pulmonary tuberculosis and was started AKT. Patient was continued on it for 4 months with no clinical improvement, but later on with high index of suspicion and pursuing further investigations patient was ultimately diagnosed to have Sarcoidosis . Patient's AKT was withhold and was started on steroids. Patient's symptoms and lifestyle gradually improved.

KEYWORDS

INTRODUCTION

Sarcoidosis is a chronic granulomatous inflammatory disease with unknown etiology which is common in 4th to 5th decade of life and in males. It is a multi- system disease and requires the presence of involvement of two or more organs for a specific diagnosis.

Although Sarcoidosis can affect virtually any organ of the body, the lung is the most commonly affected one. In a country like India where Tuberculosis is endemic and limited awareness regarding Sarcoidosis , it is usually underdiagnosed. A clinical, radiological and histological criterion is used to diagnose it which is similar to Tuberculosis it poses great challenge to diagnose.We have described a case of 40 year old Indian man who was misdiagnosed as Tuberculosis, but later on found to have Sarcoidosis.

CASE REPORT

A 40 year old Indian male labourer from the state of Uttar Pradesh presented to Medicine department, Civil Hospital, Ahmedabad on 7th October 2019 with history of cough with mild expectoration which was whitish in colour and shortness of breath on exertion with low grade fever for last 6 months. Patient had also complain OF weight loss of 4kg in last 6 months. Patient was a non- alcoholic and non-smoker. There was no significant drug history or family history.

Significant past history consisted of multiple private consultations peripherily for last 6 months . Initially the patient was prescribed treatment for a 5 day antibiotic course of Tab Coamoxiclav (625mg) tds for considering it upper respiratory tract infection.

But the patient did not improve, so the patient got a chest radiograph which was suggestive of haziness in right lower zone. Patient was investigated with sputum examination which showed few Gram positive cocci but no evidence of AFB. Patient was suspected to have Lower Respiratory Tract Infection and was treated with higher iv antibiotics. Patient's sputum culture turned out to be negative. There was a mild improvement in his symptoms and patient was discharged after 14 days but patient's symptoms resurfaced after a week for which the patient sought pulmonologist consultation.

Patient was subjected to pulmonary CT scan which was suggestive of reticlo- nodular peri-bronchial and centri-lobular opacity in right lower zone and bilateral upper zones suggestive of infective etiology andmediastinal enlarged lymph nodes. Sputum was negative for AFB. Patient was then started on AKT considering sputum negative Pulmonary Tuberculosis.

Because of no clinical improvement patient presented to medicine department of Civil hospital Ahmedabad.

On examination, patient was hemodynamically stable and maintaining saturation of 98% on air and he was fully conscious and oriented.

There were bilateral fine diffuse crepitations. Back of the trunk showed maculopapular lesions as other systemic features. Then patient subjected to battery of investigations.

Laboratory Investigations

Hb - 10.5 gm/dl TC - 5600/cumm PC - 195,000
SGPT - 27.1 IU/L S. Creatinine - 1.04 mg/dl
HIV Negative
ESR — 86 mm/hr
CXR PA view — Bilateral diffuse reticulo-nodular opacity involving

both mid zone and lower zone with hilar lymph-adenopathy.

HRCT Thorax:
Diffuse irregular/nodular peri-broncheolar interstitial and interlobular septa! thickening noted along with peri-broncheolar interstitial thickening in both lung fields in all zones with mild diffuse ground glassing. Multiple retroperitoneal , left gastric, and peri-pancreatic lymphnodes.

2D Echocardiography: Normal
PFT : FEV1 - 26 FVC - 21 FEV1/FVC - 121
Repeat Sputum AFB : Negative
Sputum CBNAAT : Negative
Serum ACE: 115.166 IU/L (N:14-82units/L)
Serum Calcium — 8.4 mg/dl

As repeat Sputum study was negative for Mycobacterium Tuberculosis and HRCT Thorax findings highly suggestive of ILD with High serum ACE level and no improvement with AKT,Patient was suspected for sarcodosis and subjected to Broncho-alveolar Lavage and Trans-bronchial Lung Biopsy(TBLB).

Other systemic evaluation including eye was normal.

BAL:
Benign and reactive bronchial epithelial cells along with inflammatory cells in hemorrhagic background with CD4/CD8=5

CBNAAT of Bronchial Aspirate : Negative

TBLB : Multiple deeper levels show fragments of bronchial mucosa with a single fragment of mucosa showing a non-caseating granuloma in submucosa, possibility of sarcoidosis.

On the basis of patient's clinical profile, radiological and histological confirmation Patient was diagnosed as Sarcoidosis.

Patient was started on Prednisolone 1 mg/kg/day and then gradual tapering. AKT was stopped.

Patient's symptoms gradually improved within 1 month of treatment with improvement of PFT Patients lung function improved with significant resolution of parenchymal infiltrates. Currently, patient is on regular follow-up on an outdoor patient basis.

DISCUSSION
Sarcoidosis is an inflammatory disease with unknown etiology characterized by the presence of non-caseating granulomas and usually has to involve two or more organs for a specific diagnosis and is usually confused with other mycobacterial and fungal infections and predominantly the lungs. Liver, skin, spleen , extra-thoracic lymph-nodes, cardio-vascular and central nervous system can also be involved.

Currently the most likely etiology is an infectious or noninfectious environmental agent that triggers and inflammatory response in a genetically susceptible host

Sarcoidosis is seen worldwide with the highest prevalence reported in the Nordic population. It often occurs in the young otherwise healthy adults. It is uncommon to diagnose the disease in someone less than 18 years of age.

The granuloma is the pathological Hallmark of sarcoidosis. Extensive studies in the lung using bronchoalveolar lavage have demonstrated that the initial inflammatory response is an influx of T-helper cells

Clinical manifestations of sarcoid ranges from patients who are asymptomatic to those with organ failure. Presenting complaints include cough and dyspnea with the history of around 2 to 4 weeks. Symptoms related to cutaneous and ocular disease are the next two most common complaints. Non-specific symptoms include fever, night sweats and weight loss. Fatigue is perhaps the most common constitutional symptom. Over the time skin and neurologic involvement seem more apparent.

Lung involvement occurs in greater than 90 % of sarcoidosis patients. CT features include peri-bronchial thickening and reticulo-nodular changes along with bilateral hilar-adenopathy. Skin changes include maculopapular lesions,Erythema nodosum, hyper and hypo pigmentation and subcutaneous nodules. Ocular involvement occurs in the form of anterior uveitis but can also cause retinitis and pars planitis

The most common abnormality of liver function is an elevation of alkaline phosphatase level consistent with an obstructive pattern. The most common hematologic problem is lymphopenia. Bone marrow examination will reveal granulomas in about one third of patient. Non thoracic lymphadenopathy can occur in up to 20% of patients. Hyper-calcemia and hyper-calciuria occur in only about 10 % of sarcoidosis

Neurologic disease is reported in 5 to 10 percentage of patients. The MRI with contrast enhancement may demonstrate space occupying lesions. Cardiac involvement presents as congestive heart failure or cardiac arrhythmias resulting from infiltration of heart muscle by granulomas.

Apart from the investigations done above, certain other investigations like the PET scan, Gallium scan, BAL CD4:CD8 ratio can be used for the diagnosis of sarcoidosis.

The risk of death or loss of organ function remains low in sarcoidosis. Indications for therapy should be based on symptoms and/or presence of organ or life threatening diseases including disease involving the eye, heart and nervous system. The patient with asymptomatic LFT changes and abnormal chest x-ray probably does not benefit from treatment. Glucocorticoids remain the drugs of choice for this disease. However other drugs like Hydroxychloroquine, Methotrexate, Azathioprine and Infliximab are also used as steroid sparing agents.

CONCLUSION:
Diagnosing sarcoidosis in countries with high-TB burden does pose a significant challenge because of its resemblance to TB and the lack of facilities to perform invasive diagnostic tests. However, new cases of sarcoidosis are increasingly diagnosed in TB endemic areas in recent years due to increased awareness and the better availability of diagnostic modalities. In our case also, though initially it was considered TB, but in view of hilar lymphadenopathy, progressive symptoms, negative bacteriological studies for TB, poor response to treatment, and predominant restrictive pulmonary function tests, we were prompted to investigate for other causes such as interstitial lung disease (primary and secondary). Bilateral hilar lymph node enlargement and symmetrical pulmonary infiltrates helped us in suspecting sarcoidosis as a cause of his pulmonary symptoms, which was later supported by elevated angiotensin- converting enzyme (ACE) levels and lung biopsy. Hence, the take-home message is that we should always reconsider the diagnosis if the response to treatment is not as expected.

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