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Case Study

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A CASE OF MULTIPLE SYSTEMIC DISSEMINATED TB MIMIC AS METASTATIC CANCER

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ABSTRACT

Disseminated tuberculosis is a communicable mycobacterial infection in which mycobacteria have spread from the lungs to other parts of the body through the blood or lymph system. The multiple organ involvement in disseminated TB can mimic metastatic cancer and can make the diagnosis challenging. Disseminated Tuberculosis (TB) is a potentially fatal disease if not diagnosed and treated early. It still remains if the presentation is non-specific, unusual and the relevant facts are overlooked. However, a high index of clinical suspicion and early detection and timely institution of anti-tuberculosis treatment is life-saving. Here we present a case of disseminated tuberculosis with unusual presentation which mimic like a metastatic cancer.

KEYWORDS: Disseminated TB, Extra-pulmonary tuberculosis.

INTRODUCTION

Tuberculosis (TB) infection can develop after inhaling droplets sprayed into the air from a cough or sneeze by someone infected with the Mycobacterium tuberculosis. The resulting lung infection is called primary TB.The usual site of TB is the lungs (pulmonary TB), but other organs can be involved which is called Extra pulmonary tuberculosis.

Disseminated TB is defined as tuberculous infection involving the blood stream, bone marrow, liver, or 2 or more noncontiguous sites, or miliary TB.[1,2] The symptoms are nonspecific and the duration of symptoms before diagnosis is variable.[3] Therefore, it mimics a variety of diseases and requires a high index of suspicion. It is estimated that disseminated TB accounts for 1–2% of all tuberculosis cases.[4] The multiple organ involvement of disseminated TB can make the diagnosis difficult.

The disseminated forms of TB can arise in contiguous, lymphogenous, or hematogenous conditions, which can manifest as a single or multiorgan form of TB.[5] The risk factors include the following: high bacillary-load immunosuppressive condition (e.g., human immunodeficiency virus [HIV]), diabetes, smoking, alcohol abuse, young age, malnutrition, exposure to indoor air pollution, connective tissue disorders, pregnancy (peri- or postpartum), underlying malignancy, use of immunosuppressive drugs like corticosteroids and biological[6], or exposure to an infectious person. Here we report a case of young female with disseminated TB with multisystem involvement which is mimicking as a metastatic cancer.

Case Presentation

A 22yr Young female who was referred to our tertiary care centre in Amritsar, India with complaint of systemic symptoms that is High grade Fever, Night sweats, Vomiting, Weight loss, Fatigue, Shortness of breath, cough with mild expectorant from last 3 months. She also complaint of sudden loss of vision in Right eye from past 10 days. There was no history of Haemoptysis or any sensory weakness. She had no history of tuberculosis and denied any known exposures to tuberculosis.

On examination she was moderate built, febrile, pulse was 120 beats per minute, normotensive, multiple Lymph nodes palpate over cervical region There was no pallor, cyanosis, clubbing, or pedal oedema. Respiratory examination revealed Decrease intensity of breath sound over right side infrascapularly.

On abdominal examination shifting dullness is present indicate fluid in peritoneal cavity.

On fundus examination in right eye white dot hemmorhages,Macular Edema, Retinal hemorrhages was found which makes the diagnosis of Ischemic Central Retinal Vein Occlusion. Other system were normal.

Further serological investigations revealed Hb 11.2gm ESR 80mm TLC-11500 Renal and liver functions were within normal limits. HIV serology was Non-reactive. Sputum for AFB was negative.

Her Chest X-ray revealed Fig-1 right side pleural effusion.

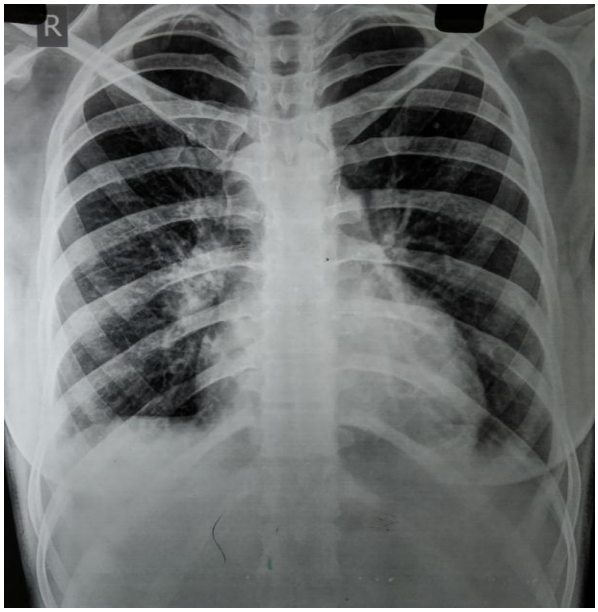

Fig-1

USG Neck was done and revealed Multiple enlarged LN are seen in the cervical region, 3.6*1.5 cm on the Left side.

FNAC of Left Cervical Node was done and smear show against the background of granular necrotic material, plenty of macrophages, histiocytes, lymphocytes, neutrophils and necrosed cells.

An occasional epitheliod cell granuloma seen. These feature suggestive of Necrotizing granulomatous lymphadenitis which is highly suggestive of Tb Cytology report of Ascitic Fluid examination was done and report show Exudative with lymphocytic predominance picture which goes in favour of Tuberculosis CECT Abdomen Fig-2 showed abdominal lymhadenopathy, ascites, bilateral pleural effusion, pericardial effusion, hyperdense area seen in body of L4-L2 vertebra.

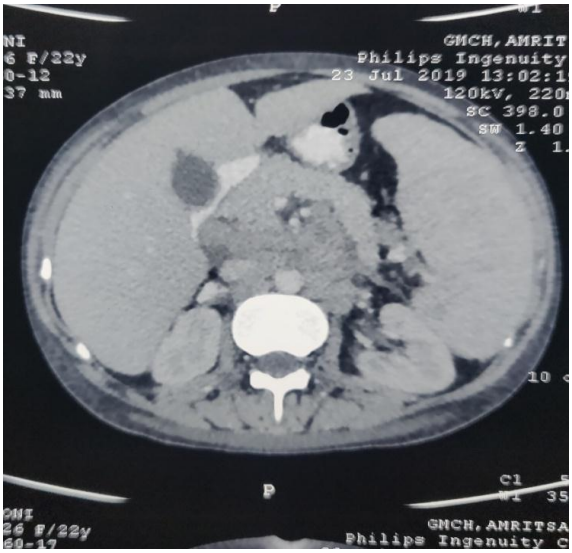

Fig-2

MRI brain Study was normal
So patient was diagnosed with a case of Disseminated TB and put on Anti-tubercular drugs that is Isoniazid, Rifampicin, Pyrazinamide, Ethambutol for 6 months.

DISCUSSION

Tuberculosis (TB) is the most common cause of chronic infectious diseases, afflicting up to one-third of the world's population and most commonly affect the pulmonary system. Disseminated TB is defined as tuberculous infection involving the bone marrow, blood stream, liver, or two or more noncontiguous sites, or miliary TB.[7] This case report underlies many rare and unique manifestations of disseminated TB in young female.

Extra pulmonary TB is defined as the occurrence of TB at sites other than the lungs, such as the lymph nodes (19%), pleura (7%), gastrointestinal tract (4%), bone and joints (6%), meninges and central nervous system (3%), genitourinary system (1%), cutaneous (1%), occular and endocrine glands (<1%)[8]. Upto 25% of tuberculosis cases present extrapulmonary involvement and disseminated TB in 2–5% of patients.[9] Lymph nodes and Pleura involvement is most commonly involved in disseminated TB.

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Diagnosis requires a high index of suspicion. Delayed diagnosis of extrapulmonary forms is frequent and it entails an increased morbidity and mortality. Symptoms and signs can be relatively vague and sometimes occur in normal chest x-rays and smear-negative patients, therefore hampering the consideration of the disease in the initial approach. Nevertheless pulmonary tuberculosis always needs to be ruled out by means of chest x-rays and sputum culture. Suspected extra

pulmonary sites should be sampled for acid-fast bacilli smear, mycobacterial culture, nucleic acid amplification testing, and histologic examination. False negative AFB smear are common and should not exclude the diagnosis. Culture is the gold standard microbiologic test for diagnosing TB, however it is time consuming (4–6 weeks) and has variable sensitivity (50–100%) depending on time of collection and culture media type (liquid, solid media).

The determination of the enzyme adenosine deaminase (ADA) provides useful information in extra pulmonary TB. It is produced by monocytes and macrophages involved in the inflammatory response of serous membranes. Its cut-off values are 40U/l in pleural and pericardial fluids, 10U/l in cerebrospinal fluid, and 39U/l in peritoneal fluid. It has a high sensitivity (75-80%).

To make definite diagnosis of EPTB, it requires a samples from fluids and/or tissues through fine needle aspiration biopsy (FNAB), for smear, culture and PCR testing, even requiring an open biopsy of the affected tissue in case of negative FNAB. Histopathological studies of the biopsies show the typical necrotizing granuloma containing macrophages, lymphocytes and Langhans giant cells. Caseous necrosis can be sometimes found in the central part of the granuloma. Its presence has a high specificity and it could justify the decision to initiate antitubercular drugs therapy.

Treatment of extrapulmonary form of TB does not differ from pulmonary TB treatment regimens. Evidence on the duration of therapy in some forms of EPTB is not unanimous. It has been recommended to use the same regimens of antimicrobial therapy for 6 months and provide extended therapy (12 months) in the case of CNS involvement.[10] Treatment schemes include a 2 month period on rifampicin, isoniazid, pyrazinamide and ethambutol followed by a 4 month period on rifampicin and isoniazid.

CONCLUSION

TB disseminated to multiple LNs can mimic lymphoma. An early biopsy for the histopathologic diagnosis is advisable. In addition misdiagnosis and delay in treatment increases mortality. False negatives are persistent, but diagnosis can be improved by obtaining multiple culture samples as well as biopsies for histopathologic examination.

Conflict of Interest: Nil.

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