



COEXISTENCE OF LEPROSY AND PULMONARY TUBERCULOSIS WITH ASPERGILLOMA AND DIABETES – AN UNCOMMON ENTITY

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Background

Leprosy and tuberculosis (TB) are both endemic to India. Taking into account the population and size of the country, the burden of both these diseases is very high in India. The prevalence of leprosy in India is 0.68/10 000 and the prevalence of TB is estimated to be 211/100 000 population for the year 2013. India alone accounted for 6 burden in 2015 and contributes 23% to the global incident TB cases accounting to 21% of global TB-related mortality.

In 2016, 6.3 million new cases of TB were reported to WHO. Also estimated ranges from 0.6 to 8 million people are affected with LEPROSY.

TB is known to occur throughout the spectrum of leprosy and with some studies, in fact, suggesting an increased susceptibility to TB in patients with leprosy and a higher morbidity and mortality. Conversely, some studies suggest cross-immunity, wherein TB protects against leprosy.

TB may occur in patients with leprosy with predisposing pre-existing conditions such as malnutrition, diabetes or other immunosuppressed states and also in patients being treated with corticosteroids for the complications of leprosy.

We report one case of leprosy and pulmonary TB with no comorbidities, both conditions diagnosed at the same time. This case also found to be diabetic and having aspergilloma in the tubercular cavity.

Case presentation: A 45 year old man with known case of diabetes mellitus type 2 since 4 years (on irregular oral hypoglycemics with uncontrolled blood sugar levels having HBA1C of 9.42) presented in OPD with high grade intermittent fever since 10 days, cough with sputum for 1 month and 1 episode of hemoptysis 15 days back.

He had history of gradual onset weight loss and anorexia since 2 months with generalised bodyache. He was also having skin lesions over extensor surface of forearm and legs bilaterally- gradual progressive since 2 years. Associated with tingling and numbness in bilateral upper and lower limbs below knee.

On examination: He is moderately build and nourished with BMI of 20. Fabrice and mild pallor. There is no significant lymphadenopathy. No any joint deformity. There is loss of lateral one-third of eyebrows bilaterally i. e. Madarosis.

Cutaneous examination reveals ill defined multiple scaly plaques with occasional sharp borders of variable sizes of few mm to 0.5 cms - on extensor surfaces of forearm and lower limbs (below knee) bilaterally. There is thickened right and left supra orbital, ulnar, popliteal and common peroneal nerves. No sensory loss is noted either in hands and feet. No joint deformity is noted.

Further on chest auscultation- there are crepitations with bronchial breath sound heard at upper lobe of left lung- chest radiograph as shown below.

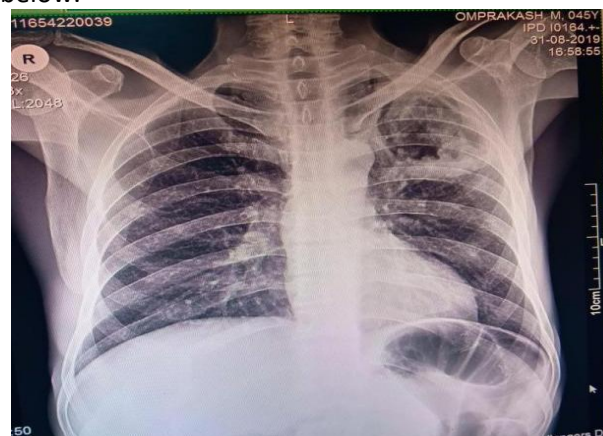


Figure 1: Chest radiograph- cavitary lesion in left upper lobe of lung.



Figure 2: Loss of lateral one-third of eyebrows-
Madarosis



Figure 3: Skin lesion over legs



Figure 4: Skin lesion over forearms



Figure 5: Thickened ulnar nerve

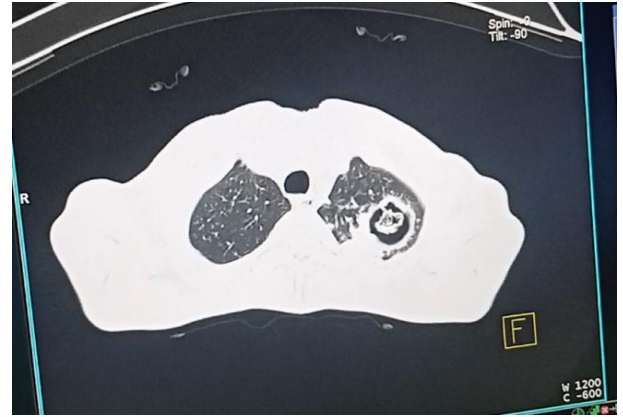


Figure 6: HRCT Chest- large cavitary lesion with fungal
ball (aspergilloma)

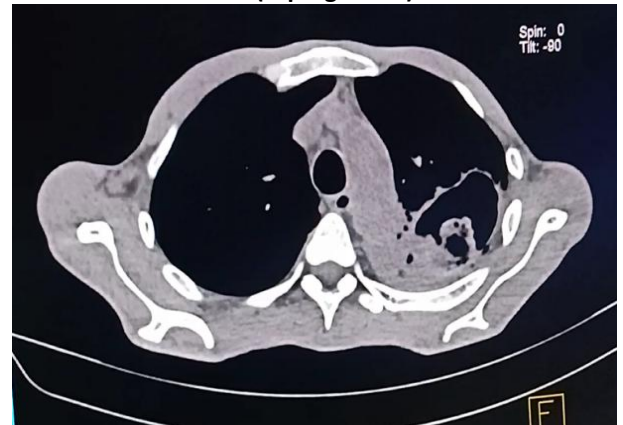


Figure 7: HRCT Chest- cavity with aspergilloma

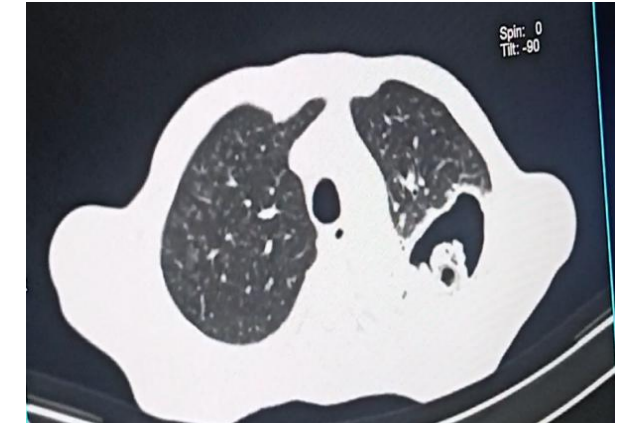


Figure 8: HRCT Chest- cavity with aspergilloma

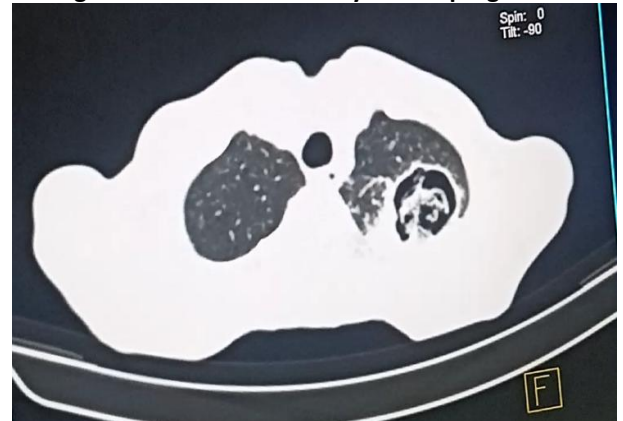


Figure 9: HRCT Chest- prone position

Investigations & reports-

1. HRCT CHEST: APPROX 6.0x5.5x4.0 cm large thick walled bilobed bronchus communicating cavity in apico-posterior segment of left upper lobe. This cavity is containing approx 3.4x2.2x2.8 cm round to oval shaped heterogenous mobile material within dependent part with air crescent sign s/o fungal ball-aspergilloma.
2. SPUTUM GENE XPERT: MTB DETECTED. RIFAMPICIN SENSITIVE.
3. SPLIT SKIN BIOPSY: BORDERLINE LEPROMATOUS LEPROSY
4. ESR=42mm
5. Ig- E LEVELS=415.4 (normal <165)
6. RBS=294
7. HBA1C=9.42%
8. HIV-NEGATIVE
9. HBSAG-NEGATIVE
10. MP ANTIGEN-NEGATIVE
11. Sr creatinine=0.71
12. LFT- total bilirubin=0.36 direct=0.12 indirect=0.24
SGOT=85 SGPT=42 Total protein=4.87
Albumin=2.3 globulin=2.57
13. Haemoglobin=10.1 mcv=78.5 rbc=3.82
platlets=3.01 Wbc=5.34

FINAL DIAGNOSIS: PULMONARY TUBERCULOSIS with BORDERLINE LEPROMATOUS LEPROSY with ASPERGILLOMA with DIABETES MELLITUS 2.

Treatment for TB

The patient was put on the standard 6 months short course chemotherapy for sputum-positive pulmonary TB having NIKSHAY ID-10505144. This regimen included a 2-month intensive phase of four drugs daily, that is, isoniazid, rifampicin, pyrazinamide and ethambutol to be followed by 4 months of continuation phase with two drugs, that is, isoniazid and rifampicin. This was in accordance with the WHO and Revised National Tuberculosis Control Programme guidelines for India.

FOR LEPROSY

The WHO prescribed 1-year multidrug therapy (MDT) for multibacillary leprosy with three drugs (dapsone, clofazimine and rifampicin) was initiated for this patient. Dapsone (10 mg/kg body weight) and clofazimine (1 mg/kg daily plus 6 mg/kg once a month) were initiated, whereas monthly rifampicin was skipped since it was already a part of the antitubercular regimen the patient was prescribed.

FOR ASPERGILLOMA

High protein diet was recommended.

ITRACONAZOLE 200MG Twice a day started as secondary treatment while primary treatment remains the surgical resection.

FOR DIABETES MELLITUS:-

Diabetic diet was explained.

Patient was put on injection mixtard subcutaneous twice before meals. Alongwith metformin 500mg plus glimipiride 2mg twice.

Learning points

1. Dual mycobacterial infections of leprosy and tuberculosis (TB) are not uncommon though infrequently reported. Delayed recognition of such cases of dual infections may result in poor outcomes if correct and timely treatment for both infections is not instituted.
2. Sputum of patients with leprosy (mainly lepromatous leprosy) may stain positive for acid-fast bacilli creating a diagnostic dilemma with sputum-positive pulmonary TB.
3. It is important that TB should not be overlooked in patients with leprosy to prevent inadvertent monotherapy of TB with rifampicin and emergence of rifampicin-resistant TB.
4. Aspergilloma and other fungal infections are more common in immunocompromised and diabetes

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