

Tuberculosis and leprosy co-infection

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ABSTRACT

Leprosy and tuberculosis, both are endemic in India. There are reports of only few cases of these two diseases occurring together in the same patient. Here we report a case of TB, leprosy co-infection who presented with fever, pain abdomen and breathlessness for a month and painful evanescent skin lesions for 2 months. Patients abdominal and respiratory symptoms improved on starting ATT, skin lesions showed improvement on starting anti-lepra treatment (MDT) MB adult.

Key words: leprosy–respiratory symptoms–skin lesions–tuberculosis–immunodeficiency

1 INTRODUCTION

Despite of all efforts to make a world free of these two dreadful diseases leprosy and TB they are still widely prevalent with greater than 200,000 new cases of leprosy and about 9 million new cases of tuberculosis (TB) registered annually worldwide. [1, 2] As of now, leprosy is particularly prevalent in clusters in developing countries, such as in the north, the northeast, and the central west of Brazil and India with more than 30,000 new cases per year in Brazil. [3] and 2.2 million in India [4]. The reason for increased incidence of TB is its coinfection with the human immunodeficiency virus (HIV) and HIV pandemics. Both the diseases are chronic granulomatous infections caused by intracellular Gram-positive aerobic acid-fast bacilli that multiply slowly and have long incubation periods. According to La'zaro and others about 5% of the *Mycobacterium leprae* infected individuals in endemic areas are predisposed to leprosy. [5] A similar figure holds for TB: more than 90% of the infected individuals will not develop the disease. [6] Similar clinical spectrum is seen in both TB and leprosy as at one pole of TB lies anergic military and periorificial forms and at other pole lies hyperergic verrucous and TB and lupus vulgaris. [7] Similarly leprosy has TT leprosy which is paucibacillary at one pole and LL leprosy at other pole, in between lies the Borderline leprosy (BT, BB, BL). [8] We hereby report a case of coinfection of TB and LL leprosy with ENL soon after starting ATT as it contains Rifampicin, an anti lepra drug.

2 CASE REPORT

A 30 year old male patient was referred to me from Medicine ICU for painless nodular lesions and infiltration on ear for 3 years and few painful evanescent lesions on b/l upper and lower limb for 1.5 months. 3 days earlier he was admitted in medicine ICU for pain abdomen and breathlessness and was diagnosed as hydro-pneumothorax which was confirmed by chest xray (Figure 4) and it immediately responded to chest tube drainage. Pleural fluid examination showed an exudates with 8% lymphocytes and Neutrophils 90% but ADA was found to be 109 IU/L and LDH-609 IU/L. Further USG whole abdomen showed ascites and hepatomegaly. Viral markers were negative. ESR was found to be raised (52/min).

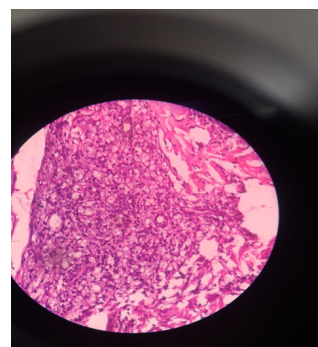


Figure 1. Fite farraco staining showing bacilli

A tuberculin skin test was high positive with induration of 16 mm. Patient was started on Indian standard modified fixed drug combination. On day 2 of admission patient was referred to me for skin lesions. On inspection multiple

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Figure 2. Illustration of a case of Hansen's disease with Tuberculosis co-infection with Nodules on ear lobe

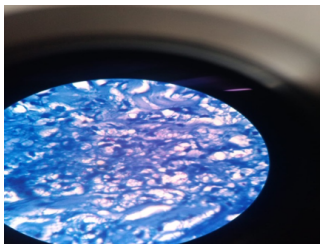


Figure 3. Fite farraco staining showing bacilli

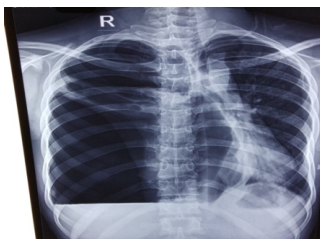


Figure 4. Cavitation in x-ray

painless nodules were present on b/l ear lobes, b/l extensors of upper and lower limb and few infiltrated plaques over back. Left ulnar nerve was moderately thickened than right. Biopsy of nodule from extensor aspect of left forearm in HPE showed focally flattened epidermis, superficial and mid dermis showed sheets of foamy macrophages admixed with few lymphocytes, similar infiltrations seen around adnexal structures and subcutaneous fat. On day 7 of starting anti TB drug patient developed type 2 reaction with fever, pain along ulnar and common peroneal nerves, painful lesions of erythema nodosum leprosum. Patient was started on anti lepra drugs (Tab dapson 100mg, Clofazimine 100mg tid), Rcin was already being given to patient as ATT, methyl prednisolone 32 mg and combination of aceclofenac and paracetamol were added to combat lepra reaction. Steroid was tapered to 16mg and then 8 mg at 15 days interval. Patient is being followed monthly and his lepromatous lesions have resolved no new episode of reaction was noted at his 4th visit.

3 DISCUSSION

The TB and leprosy interaction has been a topic of discussion since antiquity. [8] This may be because of their similar epidemiological behavior. Many interesting cases of both occurring in same individual have been published till 80s but later reports are more of them occurring individually rather than their coinfection. [9, 10]. Donoghue and others demonstrated the presence of disseminated *M. leprae* and *M. tuberculosis* co-infection in human archaeological samples dating from the Roman period using polymerase chain reaction. [11] They argued that the impaired cell-mediated response to *M. leprae* of lepromatous leprosy patients would favor the advance of the more virulent pathogen *M. tuberculosis*. Similarly, in our case we observed that a patient having leprosy for 3 years subsequently developed TB and the Leprosy reaction. In contrast earlier investigations revealed an antagonism between the two diseases, i.e., the individuals who suffered *M. leprosy* would be less susceptible to pulmonary TB in latter life than the general population, may be because of cross-immunity between the two. [12] Since then authors have either agreed or disagreed with this hypothesis. [10]. Further, patients response to anti lepra anti reaction treatment is quite noticeable.

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