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Editorial

EXTRA PULMONARY TUBERCULOSIS

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Extra Pulmonary Tuberculosis (EPTB) has existed as a disease entity for centuries. It is a milder form of disease in terms of infectivity as compared to pulmonary tuberculosis. In India, EPTB comprises 20% of all TB cases. Its prevalence in the country varies between 8.3-13.1% in different districts according to cohort analysis by Central TB Division, Ministry of Health & Family Welfare in 2002[1]. In the year 2006, 1,83,180 EPTB cases were registered in comparison to 5,55,660 smear positive pulmonary TB cases giving a ratio of 1:0.3[2]. Cure of infectious cases is likely to have resulted in a relative rise of annual EPTB case detection[3]. Prevalence of EPTB has also been found to be higher in pediatric cases[4].

Over the last decade, EPTB has gained a special attention because of HIV epidemics[5]. Among HIV-TB co-infected patients, various studies have shown that EPTB is about 30 to 70 per cent more common than pulmonary TB. Prevalence of EPTB in HIV sero-positive cases is approximately four times higher than HIV sero-negative cases among patients reporting under the programme. The proportion of smear positive TB to EPTB was found to be 1:0.24 to 1:0.06 among HIV sero-positives and sero-negatives respectively in 2006 in India. The common forms of EPTB associated with HIV infection are lymphadenopathy, pleural effusion, pericardial disease, miliary TB, and meningitis. Many patients with EPTB also have co-existent pulmonary TB. Moreover, HIV-infected patients are more likely to have disseminated TB than HIV negatives[6].

Diagnosis of EPTB has always been a challenge. It is a protean disease affecting virtually all the organs and has a wide spectrum of clinical presentation depending on the anatomical site involved and presents a diagnostic dilemma even for physicians with a great deal of experience in the field. For a definitive diagnosis, it is essential to culture the mycobacteria. Because appropriate specimens might be difficult to obtain from extra-pulmonary sites, and the number of bacilli is generally low, the bacteriological confirmation of EPTP is often more difficult than for pulmonary tuberculosis. Many of the affected sites may require an invasive procedure to get a biological sample to arrive at the diagnosis. Not all patients may agree for this. Even for those who do, due to lack of diagnostic resources and poor yield of conventional diagnostic methods, there is a considerable delay in starting the treatment. The fast track methods like use of liquid medium and radiometric growth detection system are being used to overcome problem of slow growth on solid media but these are quite costly. Serological methods using various antigens including A-60, excretory secretory proteins by ELISA have been tried with variable results. Non-conventional methods for picking up antigens, antibodies and immune complexes in blood are in various stages of development and have shown variable results. Procedures based on *in-vitro* amplification of mycobacterial DNA using Polymerase Chain Re-action have met with variable degree of success. Besides these methods are technically too demanding and expensive.

Under RNTCP, it is recommended that EPTB should be diagnosed bacteriologically, histopathologically or on clinical judgment of treating specialists. But in most cases, diagnosis of EPTB has been found to be made on clinical grounds. In view of the low yield of microscopy, both culture and histopathological examination of tissue specimens, obtained by needle biopsy of lymph nodes are important. International Standards of Tuberculosis Care (ISTC) also recommends that for all patients suspected of having extra-pulmonary tuberculosis, appropriate specimens from the suspected site of involvement should be obtained for microscopy and, where facilities and resources are available, for culture and histopathological examination. In addition to the collection of specimens from the sites of suspected tuberculosis, sputum should be examined, as there is an appreciable frequency of associated pulmonary tuberuclosis[7].

Anti-tuberculosis treatment is the mainstay in the management of EPTB. However, the issue of the ideal regimen and duration of treatment has not yet been fully resolved. Studies conducted by Tuberculosis Research Centre (TRC), Chennai, have clearly established the efficacy of short course chemotherapy. Also intermittent regimens have been found equally effective as daily regimens[8.] According to DOTS guidelines, patients with less severe forms of EPTB are categorized under treatment category III and those with severe form under category I[9]. While the six months' treatment is sufficient for the majority of patients, each patient should be individually assessed; wherever appropriate, treatment duration may be extended for a given patient. Published evidence suggests that a majority of EPTB patients with HIV infection respond well to category I regimen. Overall favourable response varied from 87% to 99% in all forms of EPTB.

A number of diagnostic procedures are now available and are being employed for establishing rapid and definite diagnosis of EPTB leading to increased proportion of these cases being registered under RNTCP. Effective short course treatment is available. Need of the hour is to make efforts to increase awareness of health-care providers to suspect these cases, diagnose them promptly and put them on definite standardized treatment as recommended under National Programme. The Steering Committee supervising formulation of International Standards of Tuberculosis Care observed that while Health Care providers who are part of National Tuberculosis Programme have been trained and are expected to have adopted proper diagnosis, treatment and public health practices, the same is not likely to be true for non-programme providers. Studies on the performance of the private sector conducted in several different parts of the world suggest that poor quality care is common. The basic principles of care for people with, or suspected of having tuberculosis are the same worldwide: a diagnosis should be established promptly and standard treatment regimen should be administered. Prompt and accurate diagnosis and effective treatment are essential for good patient care and tuberculosis control[7]. So, a high index of suspicion, timely and judicious use of invasive diagnostic methods for confirmation of diagnosis, early institution of DOTS and close clinical monitoring are the keys to the successful management of EPTB.

Indian Journal of Tuberculosis has often emphasised on disseminating knowledge about EPTB by publishing informative articles. In this issue also, two interesting case reports on rare manifestations of EPTB, their investigations and management strategies have been detailed. The case reports appearing elsewhere in this issue highlight the increased chances of extra-pulmonary tuberculosis among HIV patients, role of newer investigation techniques like PCR in diagnosis and their good response to the anti-tuberculosis drugs. Second case report deals with extra-pulmonary tuberculosis in a HIV patient presenting as an osteolytic lesion in the skull which posed diagnostic problem and had to be differentiated from other probabilities like dermoid, Ewing's sarcoma, etc., and required various investigations to confirm the diagnosis of tuberculosis.

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