

EDITORIAL Multidrug Resistant Tuberculosis (MDR-TB)

Tuberculosis - the most common cause of death due to single infectious agent worldwide in adults, has assumed alarming dimensions in view of emergence of multidrug resistance tuberculosis (MDR-TB). The abysmal failure of national tuberculosis programme indicate that MDR-TB is due to failure of organizational authorities, physicians and the patients; it is a "Man-made problem".

It is a worldwide problem both in immunocompetent and HIV+ individuals. The 5 year survival rate is only 50%. MDR-TB is particularly problematic because it threatens both the individual and the community. For the individual, MDR-TB often results in treatment failure, increased relapse, progressive disability and death, particularly in resource poor countries unable to provide expensive complicated 'second line' treatment. The duration of therapy has increased (18-24 months) and the resulting toxicity from the drugs. It has also created a potential need for resection or surgery and even hospitalization. It has also resulted in massively increased expenses to 1.5 to 2 lacs for an individual. For the community, the patient with chronic MDR-TB disease represents an infectious reservoir of resistant tubercle bacilli.

Today, MDR-TB is a dreadful reality and is continuously on the rise. The rising trend of AIDS in our country may add fuel to fire. Countries, like India, which today contribute to maximal number of tuberculosis patients of the world, remain exposed to this monumental threat i.e. "double-trouble". The due has increased the morbidity, mortality, relapse, decreased survival rate.

MDR-TB is caused by *Mycobacterium tuberculosis* resistant to both isoniazid and rifampicin, with/without resistance to other drugs. About 1.7 billion, one third of the world's population, carry the tubercle bacillus, and every year there are 8 million new cases of tuberculosis causing death to 3 million people. In India, it is estimated that there are 14

million patients, out of which at least 25% have multidrug resistant tuberculosis (MDR-TB) while host genetic factors may probably contribute; irregular, incomplete and inadequate treatment is the single most important factor, resulting in the development of MDR-TB. In India, prevalence of drug resistance in 'new cases' in adults is about 6 to 13% for isoniazid, 0 to 1.9% for rifampicin and 1 to 5.8% for streptomycin. In 'previously treated' patients, the rates of drug resistance are much higher i.e. 4 to 53% (median 10.6) for isoniazid, 0 to 14.5% (median 2.4%) for rifampicin and 0 to 19.4% (median 4.9%) for streptomycin. In India, overall prevalence of MDR-TB is 13.3%. Understanding the epidemiological aspects of MDR-TB and the mechanisms of development of drug resistance is an 'initial step' in the management of MDR-TB. Early bacteriological diagnosis along with drug sensitivity pattern is the cornerstone for detecting and managing MDR-TB. Laboratory delays in both identification of *M. tuberculosis* and the recognition of drug resistance (eg 2 to 9 months after specimen collection) contributed to MDR-TB outbreaks. Today, sputum smear results are expeted within 24 hours of specimen collection, culture identification of *M. tuberculosis* within 10 to 14 days and drug susceptibility results within 15-30 days. State of art knowledge of various laboratory diagnostic methods and their "proper application" are of utmost importance. The judicious use of second line drugs, supervised individualised treatment, focussed clinical, radiological and bacteriological follow-up, use of surgery at the appropriate juncture, are key factors in the successful management of patients with MDR-TB.

DDS Kulpati

Sr. Consultant-Chest Medicine

Ex. HOD Respiratory Medicine, Sir Ganga Ram Hospital, Formerly Director - Professor, HOD Medicine & Respiratory Division, Maulana Azad Medical College, & Associated Hospitals, New Delhi

THE UNIVERSITY OF HONG KONG

Interested in Postgraduate Training in Dentistry?

Faculty of Dentistry, University of Hong Kong offers a wide range of high quality postgraduate programmes (1 to 3 years; *Language: English*) provided by a devoted team of internationally recognized and experienced teachers.

Please visit our website

<http://www.FacDentHKU.org>

for further information and application forms.