



Initial Drug Resistance Pattern in New Cases of Pulmonary Tuberculosis

Sir,

Tuberculosis remains as one of the main public health problems in India. Multidrug resistant Tuberculosis (MDR-TB) is becoming a major health problem at a global level with an increasing HIV/AIDS scenario. It is estimated that 28% of the world's TB cases are in India. The rate of MDR-TB in India is very low and ranges from 0-6%. Primary MDR-TB is found to be $\leq 3.2\%$.¹ Studies from India have reported HIV seropositivity rates in patients with TB ranging from 0.4 to 20.1%.² The prevalence of drug resistant tuberculosis varies considerably throughout the world. The true assessment of drug resistance is limited by inadequate culture and drug sensitivity facilities.

We analyzed the susceptibility of *Mycobacterium tuberculosis* to antituberculous drugs among 35 sputum isolates of new cases of pulmonary tuberculosis in adults who were HIV negative from SDS sanatorium. These cases were sputum smear positive for acid fast bacilli and chest X-ray suggestive of pulmonary tuberculosis. Patients with past history of tuberculosis and any other chronic pulmonary illness were excluded.

Mycobacterium tuberculosis was isolated and drug susceptibility testing was carried out for the primary line of drugs - Streptomycin, Isoniazid, Rifampicin and Ethambutol using the modified proportion method in the BACTEC 460TB Radiometric system (Middlebrook 7H12 medium). Of the 35 isolates tested, mono resistance to Isoniazid was found in three cases and one case showed mono resistance to Rifampicin. None of the isolates was multidrug resistant (Isoniazid and Rifampicin). All the 35 cases were negative for HIV antibodies tested as per NACO guidelines.

The global median prevalence of MDR TB in new cases is 1.1% (range 0-14.2%). The worldwide range of drug resistance to Isoniazid, Streptomycin, Rifampicin and Ethambutol is established to be 0-42.6%, 0-51.5%), 0-15.6%, 0-24.8% respectively according to the global project on drug resistance,³ whereas, in India, the rate of Primary MDR-TB is found to be $\leq 3.2\%$. The levels of primary resistance to isoniazid, streptomycin, rifampicin and ethambutol as single agents range from 0-16%, 0.1-23.5%, 0-3% and 0-4.2% respectively.¹

Controlled clinical trials conducted by the Tuberculosis Research Centre, Chennai, on the prevalence of drug resistance over the last three decades have revealed a resistant range of 10-16% for Isoniazid and 8-13% for streptomycin with MDR seen in $< 1\%$ or 1% of the cases.³

Studies on drug resistance conducted by National Tuberculosis Institute, Bangalore, showed MDR TB levels to be 2.2% (in Bangalore) amongst patients with no history of previous treatment (Unpublished data from NTI).³

Other reports have also found that drug resistant tuberculosis including MDR TB is no longer common among people infected with HIV.²

We report 8.5% of primary drug resistance to isoniazid which is well within the range reported throughout the world. Primary resistance to rifampicin (2.8%) falls in the lower category of the global range.

This indicates that MDR TB is probably not a major problem among new cases of pulmonary tuberculosis among HIV seronegative individuals. Surveillance on a larger scale on drug resistance pattern of *M. tuberculosis* will enable to maintain a data bank which will probably contribute to the success of RNTCP.

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Is Waist to Height Ratio a Better and More Practical Measure of Obesity to Assess Cardiovascular or Diabetes risk in Indians?

Sir,

In response to the editorial by V Mohan and M Deepa.¹ I would like to point another measure of obesity appropriate to Indians. It has been rightly pointed that Indians have higher abdominal adiposity, measured as the waist-to-hip ratio or waist circumference, although they have lean body mass. However measuring hip circumference in community settings (or even in clinic situation) is difficult due to cultural reasons. Further when measured in fully clothed subjects, it will be inaccurate. We, therefore, explored if height was a good surrogate for hip measurement in a cross-sectional survey led by KS Reddy, which was carried out among a stratified random sample of industrial employees and