War between TB and Mankind : Where we stand now?

Tuberculosis is almost as old as the history of mankind. Studies suggest that the causative agent of this deadly disease Mycobacterium Tuberculosis has been present for at least 15000 years.[1] Evidence of human tuberculosis is found in spinal cord of Egyptian mummies (2400-3400 BC).[1] During this centuries old history, it is the tuberculosis which was triumphant over the man most of the time. The brief period of human victory was observed when effective anti-tuberculosis drugs were discovered and combination of drugs ensured almost complete cure for those patient who were prescribed correctly and they complied with treatment. The availability of effective drugs, efficient infection control measures and improvement in socioeconomic conditions created hope that TB will be eliminated from the globe. Although majority of developing countries remained far from this goal, situation in developed countries improved satisfactorily. This success brought in complacency among the world leaders, health authorities, researchers and pharmaceutical companies. This situation again gave advantage to tuberculosis which emerged again as a major threat to global health. Poor efforts on human part provided an opportunity to M. Tuberculosis not only to affect large number of people in developing as well as developed nations but also to acquire resistance to the commonly used effective drugs. This situation forced WHO to declare TB as global emergency in 1993.[2]

Resistant to one or more drugs was noticed right from early days of anti-tuberculosis therapy but some years ago, authorities (WHO and IUATLD) noticed that resistance to two most effective first line drugs, rifampicin and isoniazid is more commonly detected which is being labeled as Multidrug Resistant Tuberculosis (MDR-TB). This form of TB required a longer duration (18-24 months) of therapy with very costly, less effective and more toxic drugs. Furthermore, these drugs were not easily available and TB control programs did not take the responsibility for provision of treatment to drug resistance cases. Even those patients who managed to arrange such treatment, cure rates were very low and drop out of treatment due to adverse effects was high. This situation lead to further disaster and resistance started to emerge against the second line anti TB drugs as well. WHO forced to coin a new term Extensively Drug Resistant Tuberculosis (XDR-TB). It is defined as TB which is resistance to two most effective first line drugs, rifampicin and isoniazid as well as resistance to any one of fluroquinolones and any one of three injectable, kanamycin, amikacin and capreomycin. It means that now disease is resistant to the two most effective second line drugs as well. Since its first description in 2006, XDR-TB has been detected in large number of countries and TB control authorities expressed serious concerns as the disease is potentially untreatable both in developing and developed countries.[3-4] Obviously, treatment of such cases is extremely difficult and people fearing return of pre antibiotic era when no treatment was available.[5-6]

Tuberculosis is a preventable and curable disease. Despite the availability of effective tools which can eradicate this disease from planet, there are still 09 million new cases globally and 1.5 million deaths annually.[7] Majority of TB cases are non-drugs resistant and can be easily managed. However, if the treatment is bad, irregular, erratic and with less number of drugs, the resistance will emerge including MDR-TB and XDR-TB. This mismanagement of treatment is found everywhere both in developing and developed countries.[4] Therefore, the menace of drug resistance TB is considered as Man Made problem. Failure to manage these treatable TB cases has resulted in growing reservoir of difficult and sometimes impossible to treat TB that threatens the national TB programs and global health system. Tuberculosis once again seemed to have upper hand in war against its eradication.

To overcome this new challenge, WHO has joined hands with its partners and donors to gear up war against tuberculosis. They have ensured availability of funds and quality ensured treatment for all TB patients through national TB Control Programs. To ensure effective implementation WHO and partners have enforced tuberculosis case surveillance and TB control program monitoring and evaluation. Appropriate therapy is the established and most effective way to cure individual patients, prevent spread of disease in community and eliminate development of drug resistant case. Furthermore, globally resources has been made available for the programmatic management of drug resistant TB through national TB control programs.[8]

To win the war against this old deadly enemy (disease), everyone has to play its role. Health care providers

have the responsibility to stick to the guidelines for management of both susceptible and drug resistant TB. WHO and partners are targeting to eliminate TB by 2050. Adequate funds and resources have been made available even for developing countries like Pakistan. We should take advantage, least we are left alone like we have been in case of polio.

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