Two Cheap Drugs for MDR Tuberculosis

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At present, MDR tuberculosis is a killer. A further stage is X-DR tuberculosis, which though less common just now, is a bigger killer.

At present, MDR tuberculosis is quite common. If the sputum smear test shows AFBs, a nucleic acid amplification test known as TB genotype test (available at some labs.) can be done. The report is available in less than 4 hours. This test can diagnose resistance to rifampicin and INH drugs. In this case, the treatment can be started as early as possible. When only culture and sensitivity tests are relied upon, it takes 6-12 weeks (or even longer in case of PZA sensitivity test).

The problem arises when second line of drugs have to be prescribed. 3, 4 or 5 drugs have to be given at a time. These are Cycloserine and Ethionamide which are quite costly. Inj Capreomycin, Amikacin, etc. are also costly. The least costly drug is Moxifloxacin.

My suggestion is to prescribe Moxifloxacin with two other cheaper drugs which are PZA (Pyrazinamide) and Inj. Streptomycin. It is to be noted that PZA is the only drug which acts also on extracellular organisms. But it may lead to increase in uric acid levels (secondary gout) for which allopurinol may have to be given. PZA has surpassed many AKT drugs and can be given for MDR tuberculosis on a long term basis. Therefore, PZA sensitivity has assumed a very important role (like nalidixic acid sensitivity is important for typhoid patient. The cases resistant to nalidixic acid will require 3-5 gm of ceftazine intravenously).

Streptomycin is not available in many parts of the world. In India, four effective drugs have always been available (INH, rifampicin, ethambutol and PZA). So, many practitioners have stopped using streptomycin injections. Nowadays this injection can be prescribed for MDR tuberculosis. So far, there is not enough literature to suggest any resistance to this drug.

Also PAS, ofloxacin, macrolides, etc. are other drugs which can be added as they are not as costly as cycloserin, ethionamide or other injectables.