The article titled “Successful management of highly drug resistant Tuberculosis with individualized drug susceptibility testing” in this issue of the Journal deserves special attention. It brings forth an important issue of fallacies and benefits of TB treatment offered by private practitioners versus treatment offered by public sector physicians under the revised national TB control programme (RNTCP).

Treatment of tuberculosis by private practitioners is often criticised and held responsible for the failure to control the TB pandemic. This is true to an extent as deviation from standardised treatment regimens is an important reason for TB treatment failure. The private practitioners in our country vary widely with regard to expertise and training on TB. This leads to patients of tuberculosis receiving all sorts of treatments including different combination of drugs, different doses, different timings of drug administration, variable duration of treatment and the co-prescriptions of other drugs that may be potentially damaging to the outcome of ATT (anti-TB treatment). A study by Uplekar et al in 1991 pointed out that as many as 80 different treatment regimens were used by private practitioners to treat TB, most of which were never validated in any clinical trial.1 A recent study by Udwadia et al in 2010 showed that nothing much has changed even after two decades, with as many as 63 different regimens being prescribed by 106 responding physicians. Only six physicians wrote the correct regimen and three wrote the correct prescription for MDR-TB.2 Case finding is also a challenge in private practice as no standard diagnostic algorithms are followed. Case holding is another major challenge in private practice as the treatments are usually self supervised by the patient, who may default for various reasons without the knowledge of the treating physician.

Having said this, the most important advantage that the private practitioners have is the possibility of offering tailor-made treatments to satisfy specific needs of the individual patients. However, this is advantageous for the patient only if he/she is receiving treatment from a TB expert or a physician who keeps himself/herself regularly updated with the changing knowledge base.

The RNTCP offers the unique advantage of being a well organised structured programme. It offers validated and standardised treatment regimens in appropriate doses, rhythm and more importantly, in a supervised manner. Case holding is ensured by a DOTS provider and defaults are promptly addressed. Thus the programme can successfully cater to a broader patient population across the country despite the regional differences in availability of expertise and diagnostic facilities. The overall outcomes of programme-driven treatment are therefore superior to those from private practitioners as shown in India and worldwide.3 This however does not completely hold true for MDR/XDR TB cases since the current DOTS plus strategies are still evolving and lacks the freedom of individualising treatment protocols. There are some shortcomings that need to be addressed as early as possible.

The 2011 update on WHO guidelines
for drug resistant tuberculosis mentions that while designing a regimen for an MDR/ XDR case, the treating physician needs to take into account the details of the drugs (both the first and second line) that the patient may have been already exposed to, possible cross resistance between the drugs and the results of drug sensitivity testing (DST). The presence of co-morbidities/co-treatments that may influence the drug selection also needs to be taken into account while designing drug combinations. The current DOTS plus regimens do not necessarily follow these guidelines and understandably so; because a national programme has to have broad goals with little scope for individualising treatments. MDR and XDR TB are strictly defined by RNTCP. MDR-TB is defined as resistance to INH and rifampicin. XDR-TB is defined as additional resistance to at least one fluoroquinolone and at least one second line injectable aminoglycoside. The intermediate sensitivity patterns are not considered for decision making. For example, a patient who shows resistance to INH, ethambutol and pyrazinamide; though technically not MDR case, is very likely to fail on category I regimen of DOTS programme. Similarly, an MDR case resistant to additional drugs typically used in DOTS plus (Category IV) regimen, or to only a fluoroquinolone or second line injectable but not both, is likely to fail on category IV regimen as he/she is practically, although not technically, an XDR case. In this issue of the journal, Camilla Rodrigues et al define such cases as MDR + and pre-XDR. Although creating more categories and more regimens would add more confusion from the national programme’s perspective, it makes good sense for an individual patient when the primary goal is cure from tuberculosis.

The current standardised regimen for MDR-TB (Category IV) includes a daily DOTS combination of kanamycin, levofloxacin, cycloserine, ethambutol, ethionamide, pyrazinamide and pyridoxine. PAS is used only as a substitute if there is intolerance to one of these drugs and it has to be withdrawn. The current standardised regimen for XDR-TB (Category V) includes a daily DOTS combination of capreomycin, moxifloxacin, PAS, high dose INH, clofazimine, linezolid, amoxy-clav and pyridoxine. Clarithromycin and thiacetzone are reserved as substitute drugs. These regimens are started regardless of the drug history of the patient. This is again due to the inherent limitations while designing a nation-wide programme. However, this is likely to reduce the success rate of the regimen. Although there is a provision for modifying the treatment regimen, it has to be strictly based on DST report received from an RNTCP certified lab only, which are currently in grossly inadequate number. Current data suggest that the cure rate by Category 4 regimen is around 60%, which is far less than the success rate of 94% quoted by the authors who used individualised regimens. For an individual patient, this makes a very big difference in his/her hopes of getting cured from this deadly disease. The results of this study suggest that developing such novel regimens in clinical practice may be more effective. Whether such an approach can be recommended at a national policy level needs to be carefully thought out before it can be implemented. Studies such as this one shows us some novel directions for improving the quality of care of patients suffering from drug resistant tuberculosis. Considerable cost of such treatment and extreme shortage of validated DST facilities & TB expertise in the country are the real hurdles for routinely recommending such individualised treatment approach for MDR/ XDR cases at this point of time.

References

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