Diligence needed on treatment of primary multidrug-resistant pulmonary tuberculosis with concomitant COVID-19 infection

Respected Sir,

With all great interest, we recently read the case report by Yadav *et al*.[1] "Primary multidrug-resistant pulmonary tuberculosis with a concomitant COVID-19 infection in an Indian female- World's first case of its type in this current pandemic". This study has really given much-added information that will be useful for future studies and management in multidrug-resistant pulmonary tuberculosis with concomitant COVID-19 infection. A few things have to be looked at vigilantly regarding this case report. The nomenclature Multidrug-Resistant Tuberculosis (MDR-TB) implies resistance to both Isoniazid and Rifampicin. However, throughout this article, it is being mentioned that the case is resistant for rifampicin only and there is not much information on either Isoniazid or any other first line drugs.

Here regarding this case as described on examination, respiratory rate was 35 breaths per minute and oxygen saturation was 86% on room air and after walking even more deteriorated to 60% along with dyspnea on exertion which subsided after rest. In view of this, we feel strongly that the rationale guidelines of COVID-19 management of severe category might be followed. The severe criteria as per the Ministry of Health and Family Welfare (MOHFW) latest guidelines dated 19th May 2021[2] is shown in Table 1 (Table 1: Clinical Guidelines for Management of Adult Severe COVID-19 Infection by MOHFW). If treatment was followed as per the guidelines, it is to be noted that the usage of any immunosuppressants and anticoagulants may be highly debatable in the setting of rifampicin resistant tuberculosis (Table 2: Anti-TB drugs used in MDR-TB/RR-TB).[3]

In addition, the usage of any other antibiotics during the treatment period of COVID-19 is also to be seen vigilantly, which may add up the confusion further. It is also noteworthy to mention the usage of any antiviral drug like Remdesivir in the management strategies. This kind of information will add further knowledge in the treatment of both primary MDR TB and concomitant COVID-19 infection.

Table 1: Clinical Guidelines for Management of Adult Severe COVID-19 Infection by MOHFW

Respiratory rate >30/min, breathlessness
or
Spo_2 <90% on room air
↓
Admit in ICU
Treatment
Respiratory support
Anti-inflammatory or immunomodulatory therapy
Injection. Methylprednisolone or dexamethasone
Anticoagulation
Unfractionated heparin or Low molecular weight heparin (LMWH)
Supportive measures

Table 2: Anti-TB drugs used in MDR-TB/RR-TB (Multidrug Resistant Tuberculosis/Rifampicin Resistant Tuberculosis)

Groups	Drugs
Group A Include all three medicines	Levofloxacin (LFX) or Moxifloxacin (Mfx) Bedaquiline (Bdq) Linezolid (Lzd)
Group B Add one or both medicines	Clofazimine (Cfz) Cycloserine (Cs) or Terizidone (Trd)
Group C Add to complete the regimen and when medicines from Group A and B cannot be used	Ethambutol (E) Delamanid (Dlm) Pyrazinamide (Z) Imipenem-cilastatin (Ipm-Cln) or Meropenem (Mpm) Amikacin (Am) or Streptomycin (S) Ethionamide (Eto) or Prothionamide (Pto) p-aminosalicylic acid (PAS)

Treatment of MDR-TB/RR-TB with concomitant COVID-19 is difficult. We have to prioritize which is to be treated first and needs experience and skills. We really cherish the insights by Yadav *et al*.[1] on treating the patient with Rifampicin Resistant (RR-TB) who had concomitant COVID-19 infection. This is a suggestion that some additional points be kept in mind while treating these kind of patients. This will definitely add further insight for using correct drugs with an ongoing anti-tuberculosis treatment (ATT) regimen.

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Conflicts of interest

There are no conflicts of interest.

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