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Updated Pediatric Tuberculosis Guidelines

We read with interest the review article by Khurana, *et al.* [1], published recently in *Indian Pediatrics.* We would like to highlight the recent changes in the management of pediatric tuberculosis (TB) based on Revised National Tuberculosis Control Programme (RNTCP) Updated Pediatric TB Guidelines 2019 and WHO consolidated guidelines on drug resistant tuberculosis treatment 2019 [2].

Changes in diagnostic algorithm: As tuberculosis is a paucibacillary disease in children, performance of smear microscopy and culture is poor. Hence, Cartridge based nucleic acid assay (CBNAAT) is the preferred investigation of choice over smear examination (and best yield when ordered based on positive chest *X*-ray). If CBNAAT is not available, smear microscopy is to be performed.

Newer classification of drugs: The drugs for multidrug resistant tuberculosis (MDR-TB) have been recategrized into three groups. Thus, Box 2 of the review article needs revision.

Changes in treatment approach for previously treated cases: Previously treated TB includes (recurrence, treatment after loss to follow-up and treatment failure). All these children need to be evaluated for drug-resistant TB. In case they are found to be drug sensitive, they shall be started on the same regimen as for a newly diagnosed case. Category II has been now withdrawn from RNTCP. Streptomycin is now considered as second-line medicine, and should be used only as a substitute for Amikacin, when it is not available or confirmed resistance to it.

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AUTHORS' REPLY

We agree with the readers about the issues that have been mentioned. As our manuscript was drafted and submitted for publication much before the new revised RNTCP–IAP guidelines were released, these changes could not be incorporated in the review article. Further, we would like to add a few more updates:

1. Presumptive drug-resistant tuberculosis (DRTB) is diagnosed in a patient who needs to be subjected to genotypic (CBNAAT, LPA) or phenotypic (LC-DST) drug sensitivity tests (DSTs) while probable MDR-TB is diagnosed in a patient, who after getting the results of the above tests, cannot be microbiologically confirmed and needs to be started on DRTB regimen based on their clinical and /or radiological deterioration (clinically diagnosed case of MDR TB).

2. Drugs used for second-line Anti-tubercular therapy (ATT) have been re-categorized as group A (Levofloxacin/Moxifloxacin, Bedaquiline and Linezolid), group B (Clofazimine and Cycloserine/ Terazodone) and group C (Ethambutol, Delamanid, Pyrazinamide, Amikacin/Streptomycin, Para-amino salicylic acid, Imipenem Cilastin/Meropenem and Ethionamide/Prothionamide). This re-grouping is more relevant to design longer duration standard MDR-TB regimens. Group A drugs are most relevant to design longer duration MDR-TB regimens followed by group B; group C drugs are used only if other cannot be used for some reason [1]. The shorter MDR regimen of 9-12 months with seven second-line ATT drugs has gained acceptance by the WHO as well as RNTCP. The 4-6 months intensive phase consists of Moxifloxacin, Ethambutol, Clofazimine, Pyrazinamide, Kanamycin, high-dose Isoniazid, and Ethiomanide. The continuation phase of 5 months consists of former four drugs only. This shorter regimen has been included for pulmonary pediatric MDR-TB patients or those with isolated lymph nodes or pleural effusion.

3. Delamanid may be included in the treatment of MDR/ RR-TB patients aged 3 years or more on longer