To the Editors:

In their retrospective study, HWANG *et al.* [1] found the prevalence of extensively drug-resistant tuberculosis (XDR-TB) to be 21% amongst multidrug-resistant (MDR) patients. However, the available literature indicates that it is around 10% [2]. The XDR-TB data of HWANG *et al.* [1] was based on the drug susceptibility test for ofloxacin only; it was not performed for other commonly used quinolones. The data would have been higher if drug susceptibility to other commonly used quinolones could have been carried out. The proportion of XDR-TB amongst these patients would therefore have been higher.

XDR-TB has been reported with high HIV prevalence [3]. It would therefore have been more appropriate if HWANG *et al.* [1] had discussed the correlation with HIV and TB co-infection in the geographical areas in which the study was carried out.

Treatment success rates of XDR-TB worldwide are 3–13% and depend on the number of drugs to which the bacilli are resistant [4]. However, HWANG *et al.* [1] found the success rate of treatment of XDR-TB patients to be >50% (23 out of 42 patients). Their success rate was comparable to the standard success rate of MDR-TB (rather than XDR-TB). It would be appreciated if the authors could discuss the treatment regimes/drugs used in XDR-TB patients, which are likely to boost confidence in treating MDR-TB and may be useful in formulating the future guidelines.

By and large, an odds ratio is a measure of an association between categorical responses; it is important in epidemiology because it represents a relative estimate of risk when no direct risk estimate is possible. A confidence interval is a range of plausible values that account for uncertainty in a statistical estimate; a wide interval implies poor precision, suggesting findings are compatible with a wide range of effect sizes. Further studies are needed to reach a conclusion, as the figures of HWANG *et al.* [1] (adjusted OR 12.05, 95% CI of 1.48–98.38) do not convincingly show a real difference between groups. Hence, we cannot be confident enough to attribute streptomycin resistance to the adverse treatment outcomes in XDR-TB patients.

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From the authors:

We thank A.K. Khurana and P.R. Mohapatra for their interest in our recent work [1]. They raised several important issues regarding the setting, results and analysis of our study.

First, they point out that the proportion of extensively drug-resistant tuberculosis (XDR-TB) patients among multidrug-resistant TB (MDR-TB) patients in our cohort was unexpectedly high (21.3%). As only 5.7% of the 1,407 patients with MDR-TB in another Korean cohort had XDR-TB [2], we understand their curiosity regarding our MDR-TB cohort. As described in our paper, our cohort consisted of MDR-TB patients diagnosed and treated at Seoul National University Hospital (Seoul, Republic of Korea), which is the final referral centre in South Korea. Regarding MDR-TB, our institution has not only treated many refractory patients referred from other hospitals for several decades, but has also published research papers on various aspects of MDR-TB [3–6]. The relatively high proportion of XDR-TB patients should be understood in this context.

Secondly, A.K. Khurana and P.R. Mohapatra suggest that a description of HIV status in the area in which our cohort was based would help readers to understand the context of our study. Although we excluded MDR-TB patients if they were HIV-infected, we concur that the information on HIV prevalence in the geographic region is valuable. As we mentioned previously, our MDR-TB cohort was referred from hospitals located all over South Korea, for which the predicted HIV prevalence is as low as 0.01% [7].

In addition, A.K. Khurana and P.R. Mohapatra indicate that the success rate (cure or treatment completed) of XDR-TB treatment in our study was surprisingly high (54.8%). However, a recent study on XDR-TB reported a treatment success rate of 60.4% [8]. Clinicians' careful selection of an individualised regimen based on drug susceptibility test results and a detailed history of previous treatment, and the patients' firm adherence to the treatment, may have led to improved treatment outcomes, even among XDR-TB patients. Of the 211 patients with MDR-TB in our original cohort, only seven defaulted.

Finally, A.K. Khurana and P.R. Mohapatra argue that the 95% CI for the OR of the effect of streptomycin resistance on an adverse treatment outcome was too large to detect a real difference. However, the CI is not about the association itself but about the precision of the effect estimate, the OR, in our study. Although a wide 95% CI (1.48–98.38) implies that precision was lacking, the large OR (12.05) indicates a very strong association between streptomycin resistance and an