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## Utility of Xpert Ultra on Different Respiratory Specimens in Children

To the Editor:

We read with great interest the recent article on the yield of Xpert Ultra on different respiratory samples in children by Zar and colleagues (1). We must congratulate the authors for conducting such a novel study that will definitively increase the horizon of diagnosis of tuberculosis (TB) in children. However, there are some crucial points in this article that need clarification and further consideration.

The main objective of this study was to investigate diagnostic accuracy and yield of Xpert Ultra on repeated induced sputum (IS), nasopharyngeal aspirates (NPAs), or a combination of IS and NPAs. Although Ultra was performed on repeated (two) NPA specimens, it was performed on only one IS specimen, despite the fact that two IS specimens were collected. The author's previous study had shown that Xpert Ultra had good sensitivity and specificity (77%

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and 97%, respectively) on IS (2). Furthermore, in this study, the authors have also concluded that IS provides higher yields than NPAs and that it is a preferable sample for Ultra. Therefore, the inclusion of Xpert Ultra on second IS specimens also might have further increased its sensitivity and specificity.

The semiquantitative results of Xpert Ultra were mainly trace or very low; however, these results were only on NPA specimens. It would be worthwhile to know such results on IS specimens in comparison with NPA specimens.

According to the result of this study, Xpert Ultra was positive on 20 first NPA (17 in confirmed TB and 3 in unconfirmed TB) specimens. In this way, the positive predictive value should be 17/20 (85%); however, in Table 3 of Reference 1, it was mentioned as 156/175 (89.1%). It commences confusion among readers, which needs rectification.

The result of this study gives the impression that Xpert Ultra is more sensitive than Xpert MTB/RIF (74.3% vs. 68.6%, respectively). However, Xpert MTB/RIF was performed only in 165 IS specimens in comparison with Xpert Ultra, which was performed on 195 IS specimens. Therefore, the yield of Xpert Ultra does not seem to be better than the Xpert MTB/RIF, at least on IS specimens. ■

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## Reply to Jain *et al.*

From the Authors:

Thanks for the opportunity to respond to these points. As noted, the semiquantitative results of the Xpert Ultra (Cepheid) test were

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**Table 1.** Xpert Ultra Semiquantitative Results in Nasopharyngeal Aspirate and Induced Sputum

Sample	Negative	Trace	Very Low			
			Low	Moderate	High	
First NPA (n = 195)	175	9	6	1	4	0
Second NPA (n = 130)	118	4	5	2	1	0
IS (n = 195)	164	8	14	5	3	1

Definition of abbreviations: IS = induced sputum; NPA = nasopharyngeal aspirate.

mainly trace or very low in nasopharyngeal aspirates (NPAs) (1). We now provide the semiquantitative results on induced sputum; these showed a pattern similar to that of NPAs (Table 1). Most positive results in induced sputum were either trace or very low (71%; 22 of 31) compared with 75% on first (15 of 20) or second (9 of 12) NPAs, attesting to the low bacillary load in childhood pulmonary tuberculosis. Regarding the positive predictive value and negative predictive value, we apologize that these were inadvertently switched in Table 3; therefore, 156 of 175 (89.1%) is the negative predictive value.

A comparison of the Xpert Ultra and Xpert MTB/RIF platforms was not the objective of this study, which was to investigate the incremental value of additional samples using Xpert Ultra testing. In addition, Xpert Ultra and Xpert MTB/RIF tests were performed using different induced sputum samples, so the results are not directly comparable. However, as noted in the study, there were more positive Xpert Ultra results than Xpert MTB/RIF results (74.3% vs. 68.6%) using matched induced sputum samples that were culture positive as the denominator. We have previously reported the comparison of the Xpert Ultra and Xpert MTB/RIF platforms using induced sputum (2), as have others (3, 4); the evidence suggests that the Xpert Ultra test is more sensitive, as would be expected, given the paucibacillary nature of the disease (Table 1). ■

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## Comment on an American Thoracic Society Public Health Information Series Article

The American Thoracic Society Public Health Information Series piece entitled “Novel Wuhan (2019-nCoV) Coronavirus” (1) was published in the February 15, 2020, issue of the *Journal*. However, the term “Wuhan (2019-nCoV) coronavirus” is no longer used; the virus that causes coronavirus disease (COVID-19) is now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). For the convenience of our readers, *AJRCCM* is replacing the online version of the article with an updated version in which the title has been changed to “COVID-19 Disease due to SARS-CoV-2 (Novel Coronavirus).” This version also includes a number of changes to the text and graphics that reflect the rapidly evolving situation. ■

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