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We have read the recent report by Brunello et al. (1) about a comparative study between the MB/BacT and the BACTEC 460 TB systems for recovery of mycobacteria. We have carried out a similar study with 500 clinical specimens (89% respiratory and 24.3% nonrespiratory), and we would like to make some comments. First, like Brunello et al., we did not find any statistically significant differences between the two systems, but the rates of recovery of *Mycobacterium tuberculosis* we obtained were lower than those of Brunello et al. (81.6% versus 99.1% for MB/BacT and 84.4% versus 100% for BACTEC 460 TB) (1). Rohner et al. (2) have reported recovery rates of 89 and 93%, respectively, for the MB/BacT and BACTEC 460 TB systems. With regard to the time to detection, Brunello et al. found an average of 13.2 days for MB/BacT and 9.9 days for BACTEC 460 TB. These results are quite different from our own findings (17.9 days for MB/BacT and 14.5 for BACTEC 460 TB), which are in complete agreement with those of Rohner et al. (2). The three studies are coincident in the time lags for detection by the MB/BacT system versus the BACTEC 460 TB system (3 days on average). Brunello et al. (1) suggest that the better performance of the two systems in their study could be explained by the higher number of smear-positive specimens they tested: 84% versus 64.2% in the study of Rohner et al. (2). (The number of smear-positive specimens in our study was 59%.) However, there must be another reason because they also obtained excellent results for smear-negative specimens (98.1% for MB/BacT and 100% for BACTEC 460 TB), in contrast to our own results (65.3% for both systems). We did not find any explanation for this great difference.

On the other hand, in our study the sensitivities of the MB/BacT and BACTEC 460 TB systems increased to 95 and 92%, respectively, when we used Lowenstein-Jensen solid medium (considered the "gold standard"). The solid medium recovered six isolates that were missed by the two liquid media.

In conclusion, like Brunello et al. (1) and Rohner et al. (2) we think that the MB/BacT system in combination with a solid medium is a good alternative to the radiometric BACTEC 460 TB system for recovery of *M. tuberculosis*.

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Author's Reply

Nogales et al. have carried out a comparison of the MB/BacT and BACTEC 460 TB systems for recovery of mycobacteria using 500 clinical specimens. With both systems they found lower recovery rates than those reported in our study (1), as well as longer detection times. Their results show a better agreement with those of Rohner et al. (6). Nevertheless, the three studies are coincident in the time lags for the MB/BacT with respect to the BACTEC 460 TB system (3 days, on average).

Times to detection of positive cultures with BACTEC 460 may vary among studies carried out in different laboratories because of several factors: number of specimens, type and quality of specimens, degree of smear positivity, therapy status of the patients, digestion-decontamination procedure, incubation temperature, etc. Generally, it has been reported that positive cultures are detected by the BACTEC 460 system after between 9 and 12 days (2–5, 8). We have found detection time to be an average of 9.9 days, which is within the expected range. In contrast, detection times reported by Nogales (14.5 days) and Rohner (14.3 days) are out of this range.

In general BACTEC 12B medium yields numbers of positive cultures from clinical specimens which are similar to or higher than those for other media (2–5, 8). This is confirmed by Rohner et al. (6), who have found recovery rates of 91.8% with BACTEC and 79.5% with Lowenstein-Jensen (LJ) medium. In contrast, in the Nogales study LJ medium performed much better than liquid media. In our study, the recovery rates were similar with liquid and solid media. Different recovery rates may be explained by the digestion-decontamination protocol used (7). Harsh treatment damages mycobacterial cells, whereas specimen treatment with Zephiran-trisodium phosphate, benzalkonium chloride, lauryl sulfate, or cetylpyridinium chloride should be avoided since residual quantities of these substances in the inoculum inhibit growth in BACTEC 12B medium. We have followed the *N*-acetyl-L-cysteine–sodium hydroxide (NALC-NaOH) method, with final concentrations of 0.5% for NALC and 2% for NaOH (7).

In conclusion, the performance obtained in our study with BACTEC 460, which paralleled the performance we obtained with MB/BacT, is not surprising since it was similar to that described in other studies. The great difference from the study of Nogales et al. might be explained by the higher number of samples examined by us and methods used for specimen treatment.

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