Carriage of Antibiotic-Resistant Fecal Bacteria in Nepal

To the Editor—Recently, Walson et al. [1] reported the results of a study on antibiotic-resistant fecal bacteria in Nepal. It is a concern that the male population was underrepresented in the sample from Simigaun, owing to the temporary absence of this population in the area. This fact might have skewed the data and the results in the study. As is common with many underdeveloped regions, Nepal has a male-dominated society, which means that women in a household are given less access to health care than are their male partners [2]; as a result, women receive less medication and have a lower chance of acquiring resistant organisms. Having practiced medicine in Nepal for years, I also would like to mention that a visit to a doctor most often does not mean exposure to antibiotics. Although antibiotics are widely available and often are misused in the country, they still are too expensive to be afforded easily. In Nepal, people have to buy their own medications.

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References

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Reply

To the Editor—The comments of Dr. Joshi [1] are appreciated. As we mentioned in our article [2], my colleagues and I decided to exclude samples from the male population of Simigaun because these individuals spent a large portion of time working in the tourist industry outside the village and, therefore, would not be representative of the day-to-day community at large. In fact, we explain in our article that some of the antibiotic resistance detected in Simigaun may be related to the spread of resistant bacteria from the male individuals returning to the community bearing the “tourist community’s” flora.

The point of the previous study [2] was to determine the prevalence of antibiotic resistance in the fecal flora of people living in 3 different geographic locations in Nepal. The results from the other 2 communities showed no difference in the findings; however, these communities comprised men and women who spent most of their time in the community. We would agree that inclusion of the male individuals in the Simigaun group might have resulted in higher resistance rates, but, unfortunately, we could not evaluate this point, because these individuals were not available. More importantly, these individuals were not considered to be representative of what we were studying—that is, the effect of availability of health care facilities on the carriage of antibiotic-resistant bacteria in the intestinal flora of the community at large.

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Reply to Katti (J Infect Dis 2001;184:1497–8)

To the Editor—In accordance with published data [1], the proteins early secretory antigenic target (ESAT)–6 and culture filtrate protein (CFP)–10 have been shown to be potential targets in the diagnosis of tuberculosis and in extrapulmonary clinical forms for which biological material for isolation or identification of mycobacteria is difficult to obtain in some cases.

ESAT-6 and CFP-10 are specific antigens coded by the region of difference RD1 of Mycobacterium tuberculosis—complex organisms and the environmental strains M. kansasii, M. marinum, and M. szulgai [2–4]. Both molecules are immunodominant antigens recognized by T cells in patients with tuberculosis [4]. In addition, both ESAT-6 and CFP-10 possess amino acid sequences representing small molecular-weight proteins of ~10 kDa. In contrast to a statement in Dr. Katti’s letter [5], CFP-10 does not have any amino acid sequence homology with the 10-kDa GroES heat shock protein (figure 1) [6]. Thus, CFP-10 is not a target antigen in false-positive reactions in indi-
Individuals infected with microorganisms other than those within the *M. tuberculosis* complex. However, although immune responses to ESAT-6 and/or CFP-10 indicate an *M. tuberculosis* infection, such reactivity does not discriminate between an active and a latent infection. For this reason, evaluation of a patient’s clinical status and additional examinations are crucial for the interpretation of results based on immune responses to ESAT-6 or CFP-10 and in the determination of a final diagnosis. I expect that, in the near future, new characterized *M. tuberculosis*–specific antigens, in addition to ESAT-6 and CFP-10, will be available and will be used in parallel to increase the sensitivity of immune-based diagnostic assays. Thus, an efficient diagnosis of central nervous system infection caused by *M. tuberculosis* may be determined by measuring immune responses to specific antigens such as ESAT-6 and CFP-10.

Simple and faster immune-based diagnostic tests, either cell mediated or serological, have been developed recently and are already commercially available. Some of these diagnostic tests for tuberculosis show significant specificity and sensitivity values and can make assay performance faster and more cost effective. This may represent an advantage for developing countries where, for geographic or economic reasons, more-elaborate tests are difficult to perform.

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