

REFERENCES

1. CHO, S.-N., CELLONA, R. V., FAJARDO, T. T., ABALOS, R. M., DELA CRUZ, E. C., WALSH, G. P., KIM, J. D. and BRENNAN, P. J. Detection of phenolic glycolipid-I antigen and antibody in sera from new and relapsed lepromatous patients treated with various drug regimens. *Int. J. Lepr.* **59** (1991) 25–31.
2. DROWART, A., CHANTEAU, S., HUYGEN, K., DE COCK, M., CARTEL, J. L., DE BRUYN, J., LAUNOIS, P., YERNAULT, J. C. and VAN VOOREN, J. P. Effects of chemotherapy on antibody levels directed against PGL-I and 85A and 85B protein antigens in lepromatous patients. *Int. J. Lepr.* **61** (1993) 29–34.
3. ESPITIA, C., SCIUTTO, E., BOTTASSO, O., GONZALEZ-AMARO, R., HERNANDEZ-PANDO, R. and MANCILLA, R. High antibody levels to the mycobacterial fibronectin-binding antigen of 30–31 kD in tuberculosis and lepromatous leprosy. *Clin. Exp. Immunol.* **87** (1992) 362–367.
4. LAUNOIS, P., M'BAYAME, N., DROWART, A., VAN VOOREN, J. P., SARTHOU, J. L., LALU, T., MILLAN, J. and HUYGEN, K. IgG response to purified 65- and 70-kDa mycobacterial heat shock proteins and to antigen 85 in leprosy. *Int. J. Lepr.* **62** (1994) 48–54.
5. LODAM, A. N., REDDY, M. V. R. and HARINATH, B. C. Immunodiagnosis of pulmonary tuberculosis by concomitant detection of antigen and antibodies of excretory-secretory protein of *Mycobacterium tuberculosis* H37Ra. *J. Biosci.* **23** (1998) 19–23.
6. MISTRY, N. F., IYER, A., HARBOE, M. and ANTIA, N. H. Low rates of detection of mycobacterial secretory antigen 85 in sera of untreated leprosy patients. *Int. J. Lepr.* **64** (1996) 451–453.
7. PESSOLANI, M. C. V., RUMJANEK, F. D., MARQUES, M., DE MELO, F. S. F. and SARNO, E. N. Serological response of patients with leprosy to a 28- to 30-kilodalton protein doublet from early cultures of *Mycobacterium bovis* BCG. *J. Clin. Microbiol.* **27** (1989) 2184–2189.
8. RADA-SCHLAEFLI, E., SANTAELLA, C., ARANZAZU, N. and CONVIT, J. Detection of antibodies toward secreted mycobacterial antigen 85 in untreated leprosy patients' sera. *Int. J. Lepr.* **67** (1999) 167–170.
9. RADHAKRISHNAN, V. V. and MATHAI, A. Enzyme-linked immunosorbent assay to detect *Mycobacterium tuberculosis* antigen 5 and anti-mycobacterial antibody in the cerebrospinal fluid of patients with tuberculous meningitis. *J. Clin. Lab. Anal.* **5** (1991) 233–237.
10. RADHAKRISHNAN, V. V. and MATHAI, A. Detection of *Mycobacterium tuberculosis* antigen 5 in cerebrospinal fluid by inhibition ELISA and its diagnostic potential in tuberculous meningitis. *J. Infect. Dis.* **163** (1991) 650–652.
11. SETHNA, K. B., MISTRY, N. F., DHOLAKIA, Y., ANTIA, N. H. and HARBOE, M. Longitudinal trends in serum levels of mycobacterial secretory (30kD) and cytoplasmic (65kD) antigens during chemotherapy of pulmonary tuberculosis patients. *Scand. J. Infect. Dis.* **30** (1998) 363–369.

Rada-Schlaefli Replies

TO THE EDITOR:

Thank you for the opportunity to read and reply to the letter by Iyer, *et al.* As indicated in their letter, we inadvertently referred to detection of antibodies to Ag85 rather than antigen detection in citing their paper. Their interesting approach was designed to detect levels of secretory antigen and compare them with levels of cytoplasmic antigen in order to indirectly assess viability of *Mycobacterium leprae*. Unfortunately, Ag85 detection rates were quite low in untreated patients.

The results reported in our letter are clearly very preliminary since we did not have any follow-up data in treated patients. Whether or not the antibody response to ex-

creted *M. bovis* antigen will be useful as an indirect marker of bacillary viability remains to be demonstrated with the follow-up studies. While significant levels of antibody may be more persistent than antigen, we are investigating whether a detectable decrease in these levels in a relatively short time, i.e., before multidrug therapy is completed, may be associated with a favorable clinical response.

—Elsa Rada-Schlaefli, M.Sc.

Leprosy and Experimental Pathology
Laboratory
Instituto de Biomedicina
Apartado 4043
Caracas 1010A, Venezuela