INTERNATIONAL JOURNAL OF LEPROSY

Volume 68, Number 1
Printed in the U.S.A.
(ISSN 0148-916X)

CORRESPONDENCE

This department is for the publication of informal communications that are of interest because they are informative and stimulating, and for the discussion of controversial matters. The mandate of this JOURNAL is to disseminate information relating to leprosy in particular and also other mycobacterial diseases. Dissident comment or interpretation on published research is of course valid, but personality attacks on individuals would seem unnecessary. Political comments, valid or not, also are unwelcome. They might result in interference with the distribution of the JOURNAL and thus interfere with its prime purpose.

Clarification to Rada-Schlaefli, *et al.*

TO THE EDITOR:

We have read the article by Rada-Schlaef-li, *et al.* ([8]) on the detection of antibodies to antigen 85 (Ag85) in leprosy patients' sera. In this regard, they quote our study ([6]) on low levels of secretory Ag85 in the sera of untreated leprosy patients which they have apparently misunderstood.

We used an indirect ELISA protocol to detect secretory Ag85 and not antibodies to Ag85 in the sera of leprosy patients. Several studies have demonstrated the presence of antibodies to Ag85 in leprosy patients' sera ([2, 3, 4, 7]). The disadvantage of an antibody ELISA as opposed to an antigen detection ELISA is the relatively long duration of persistence of antibody in patients' sera even after completion of treatment ([1, 2]). On the other hand, secretion of 30 kDa (Ag85) is indicative of the disease in an active phase, and the decline in antigen levels after chemotherapy has been shown to correlate with progress of treatment ([2, 9–11]). This was the rationale behind attempting to use the Ag85 detection assay for monitoring therapy in patients. The relatively lower sensitivity of the antigen detection (28.5% in multibacillary and 32.3% in paucibacillary cases) ([6]) led us to speculate that immune complex formation might be involved in masking of the free antigen. However, immune complex dissociation experiments failed to improve sensitivity.

Detection of the antigen in macrophage granulomas in tissue secretions by immunocytochemistry seems to indicate a localized secretion of the antigen which may not be detected in the general circulation due to a lack of diffusion from macrophages, breakdown of the antigen in connective tissue, or binding of the antigen to other proteins, thus masking it by altering the configuration of its antibody binding epitopes. It is also possible that the lack of antigen positivity may be a reflection of the inherently low sensitivity of antigen detection techniques ([5, 9, 10]).

The level of Ag85 in the serum did not correlate with the bacteriological status of the patients in our study. A study among tuberculosis (TB) patients showed a similar lack of correlation between sputum positivity and 30-kDa positivity in untreated pulmonary TB patients ([11]). Sethna, *et al.* also report poor concordance between the intracellular load of *M. tuberculosis* and 30-kDa levels in supernatants of macrophage tissue culture. Hence, the secretion of 30-kDa by *M. tuberculosis* and *M. leprae* may be indicative of the active metabolism of the organism and not bacterial numbers *per se.*

—Anand Iyer, B.Sc.
Nerges Mistry, Ph.D.
Noshir Antia, F.R.C.S., F.A.C.S. (Hon.)

The Foundation for Medical Research
84-A, R.G. Thadani Marg
Worli, Bombay 400 018, India

—Morten Harboe, M.D., Ph.D.

Institute of Immunology and Rheumatology (IGRI)
University of Oslo
N0172, Fr Qvamsgt 1
Oslo, Norway

Reprint requests to Dr. Mistry.

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-mycobacte-rial 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.