Observations on the Status of Leprosy Research

To The Editor:

In contemplating the present state of research in leprosy we can say that positive facts relative to a large amount of experimental work have been practically insignificant. The Second International Colloquium of Leprosy, held in Borstal (October, 1974) left a deep feeling of frustration because in most of the subjects discussed it was not possible to reach positive conclusions, therefore, the contributions of the session were scanty. In confirmation of this statement it is noted that there is still no exact method available for evaluating antileprosy activity of the sulfones as is evident from the discussions at the Colloquium. The following observations may help in evaluating the present state of experimental leprology.

1. The position of tuberculoid leprosy within leprosy. Tuberculoid leprosy must be totally separated from leprosy. This nosologic entity comprises a very important area of indistinctiveness and disorientation when certain factors are considered and evaluated relative to so-called lepromatous leprosy. Such factors are, for example, premunition, contagion and chemotherapy. This confusion has been the most important reason for the lack, to the present, of any exact concept of the premunition value of BCG in leprosy.

2. Value of the so-called leprous diathesis. It is absolutely necessary to understand that *M. leprae* is unable to settle in a normal organism and, therefore, this abnormality of the organism prior to invasion by the bacillus can be called diathesis, predisposition or autooxidative disease and must be constantly borne in mind in all studies of leprology, be they related to pathogenesis, prevention, treatment or otherwise. It is important to understand that "because one is leprous, one has Hansen's bacillus" and not "because one has Hansen's bacillus one is leprous." This is not a play on words but a pathogenic causal ordaining.

3. Curability of lepromatous leprosy. At this stage of leprosy research it is clearly evident that lepromatous leprosy is an incurable disease. It is also evident that miraculous drugs with spectacular effects on this disease will not appear. To persist in the concept of curability is to miss the point of a great deal of chemotherapeutic research related to this disease. A good controller of the disease must be searched for as a goal in the fight against the same.

4. Value of the lepromatous and indeterminant form in the study of leprosy. Lepromatous leprosy is a bacterial infectious complication of true leprosy disease. In other words, the patient with lepromatous leprosy presents a complex rather than a simple problem and is, therefore, not an appropriate patient in which to study the disease of leprosy. Of all the clinical forms of leprosy, the lepromatous representing as it does the final and most complicated of the leprous process, must not be used for basic studies in leprosy. The so-called indeterminate form is, in this respect, that most closely approaching the true leprosy disease. It is the form in which leprosy is most purely represented. It represents the autooxidative disease as it has just begun to be complicated by the infectious process.

5. Value of immunology in leprosy. All parameters of immunity which are found to be related in lepromatous patients are the consequence of rather than being responsible for bacterial growth and, therefore, the findings have only a very relative value. The specific anergy of the lepromatous patient to *M. leprae* is the consequence of and not the cause of the growth of *M. leprae*. It is difficult to comprehend and admit that nature provides diseases or alterations definitive for specific bacterial pathogens. It must be borne in mind that autooxidative disease—the biochemical basis of the leprosy diathesis—precedes the growth of *M. leprae* and can of itself depress the so-called mechanisms of immunity.

6. Effects of the "chemotherapeutic" treatment of leprosy. It is absolutely necessary to understand that any specific treatment of leprosy must act on the autooxidative disease (the leprous diathesis) and not on *M. leprae*. Because of this diathesis there is no value in "killing" Hansen's bacillus with respect to definitive improvement of the disease. This is shown by the impossibility of rendering lepromatous patients' bacilli negative despite prolonged and intensive treat-

ment with drugs of extraordinary bactericidal activity, such as rifampicin. If the problem of leprosy treatment were "to kill" *M. leprae,* then questions have to be asked such as: "Where does the disease reside?" and "Why does *M. leprae* develop in the host?"

7. Metabolic disturbance in leprosy patients. Leprosy patients fundamentally have a disease of their lipid metabolic system, at the level of autooxidation processes of lipids. As a result, other systemic diseases such as cancer, atherosclerosis, diabetes, rheumatism, pigmentary disorders, etc., must show differences in incidence, evolution and pathologic characteristics when they appear in leprosy patients as compared with their manifestations in nonleprous persons.

8. Action of sulfones in leprosy. Thorough pharmacologic and toxicologic studies of the sulfones in normal animals can provide data of great value for the understanding of the pathogenesis of leprosy. Autooxidative disease is simply a manifestation opposite to that which sulfones provoke in normal animals.

—Meny Bergel, M.D.

Medical Director
Instituto de Investigaciones Leprológicas
E. Zeballos 3411
Rosario, Argentina