## CORRESPONDENCE

This department is provided for the publication of informal communications which are of interest, whether because they are informative or are suggestive and stimulating; to serve as an open forum for discussions of matters of interest; and for questions and answers by members of the editorial staff and others.

## DYE THERAPY OF LEPROSY

To the EDITOR:

With reference to my recent article on the action of certain dyes in leprosy, you have my agreement to its reproduction in the JOURNAL in condensed form. The publishers unfortunately found it necessary to omit the record of cases and to limit the article to the explanatory text.

The experiment is full of interest, although I do not think it has reached the stage at which it is of therapeutic value. In this connection, I have found that about forty per cent of those who improved during treatment with the more successful dyes have definitely relapsed, the lesions reappearing on the same spots from which the old ones retrogressed. However, I think that these dyes do represent a new avenue which should be explored.

I should be interested to have opinions on the matter of selective staining, which is a feature of the results of the injections of dyes into lepers. If a dye—say a therapeutically inert one like methylene blue—can be concentrated as a foreign body in a leprotic lesion, may not the leprosy bacilli be equally foreign or, rather, be secondary bodies concentrated similarly from the blood stream, and be really non-vital products or throw-outs from the unknown etiological entity? This might explain our inability to cultivate the bacillus, and also the fact that the early lesion—before the macrophage is of importance—is typically negative for the bacillus.

GORDON A. RYRIE

Medical Superintendent.

Comment.—This therapeutic experiment of Dr. Ryrie's is so interesting that his article in condensed form is reproduced in this issue

of the Journal, and the matter is commented on editorially. As for the question raised, the suggestion is offered that there is an essential difference between the absorption of a dye by a lepromatous lesion and the presence of bacilli therein—unless it can be shown that such a lesion, made up chiefly of macrophage-type cells, developed prior to the appearance in it of the bacilli. Some injected dyes, and other foreign materials like carbon or iron particles, are taken up by reticulo-endothelial elements wherever they may be, whether in the liver or a lymph node—or in a leproma. But it is generally accepted that the cell-accumulations that constitute the typical lepromata form because of the presence of bacilli at the point, and one knows of no evidence that suggests the process to be the reverse of this.

In reply to a communication to Dr. Ryrie in the matter he adds the following:

I have been reviewing the results of treatment during the past year and find that my figure of 40 per cent relapses can be worked out further, though there is difficulty in this as it is not easy to define relapse. But it is increasingly evident that the cases given fluorescein show a definitely smaller incidence of relapses, and I am inclined to think that further investigation of fluorescein is the most hopeful line. With it I obtain about 30 per cent rapid improvement, 30 per cent slow improvement, and 30 per cent no change.

I am also using fluorescein in cutaneous reaction cases, and in those cases resembling reaction with rapid spread of hyperemic lesions. The results are of the same type as are obtained with mercurochrome—which is, of course, a fluorescein compound. However, fluorescein has a number of benefits over mercurochrome: It seems to be the fluorescein content of mercurochrome which is effective, and therefore it is better to use the dye. Fluorescein does not cause a rigor, and one can give much bigger doses. Using 2 per cent solutions, I have more than once given 100 cc. intravenously to a reaction case, and in a non-reaction case as much as 350 cc. in a single dose. On the average, however, I am giving 20 cc. twice a week. This as a rule produces a softening and sometimes slight raising of the lesions, followed by scaling of the surface and subsequent recession. Results are still haphazard; the tuberculoid type seems on the whole to respond best.

These impressions may save time on long investigations with dyes that are found here to be more and more doubtful in their effects as time goes on. For instance, I do not think trypan blue or eosin are anything like so effective as fluorescein. I am not sure about brilliant green. I am very glad in your editorial you mention the danger of arousing undue expectations. I note in one publication that somebody is already claiming that brilliant green alone can make up the whole pharmacopeia of a leprosy clinic. That sort of thing is just foolish.

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To the EDITOR:

With regard to Ryrie's work on intravenous dye therapy, it is of interest that brilliant green when given intradermally has no effect at all—except a cosmetic one. By this I mean that the lesions apparently disappear, but the number of bacilli in the skin seems to be just as large as ever.

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