BIOPSY OF PERIPHERAL NERVE TRUNKS

In the correspondence section of this issue is a symposium on the subject of nerve biopsy. The contributions are responses to a questionnaire sent out, as explained in the introduction to the symposium, primarily to ascertain how frequently that examination is actually made for diagnosis of leprosy or of the type of the disease.

The questionnaire specifically referred to biopsy of "peripheral nerve trunks," but several of the replies deal with examinations of both such "mixed" nerves and superficial cutaneous branches, although certain of the contributors make it clear that they have dealt only with the latter. The following analysis deals chiefly with the reported experiences with the examination of trunk nerves. Another point is that the term "biopsy" was expected to be taken in its dictionary sense of histological examination of excised nerve tissue.[1] One of the replies seems to refer mainly if not exclusively to the obtaining of material for bacteriological examination by nerve scraping; another is specifically limited to that procedure for that purpose; and a third recommends only that measure although the authors themselves have done it only once for diagnosis. That examination is of considerable interest, although it appears to be seldom if ever resorted to except by a very few. The experience of those who have used the sheath-incision or "decapsulation" operations to relieve leprous neuritis has long since proved that such operations are more likely to be beneficial than to entail harmful effects, which was one of the points of the inquiry.

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[1] According to available medical dictionaries a "biopsy" is not the operation, nor is it the specimen removed for examination; it is the examination of a tissue specimen removed by operation from a living patient.

Certain of the contributors state definitely that they have not done and do not recommend nerve biopsy, although two who have not done it think the procedure may occasionally be justified. One who has exposed and incised a few peripheral trunk nerves (but "many dozens" of cutaneous nerves) for smears has made no excisions and "cannot conceive the circumstances in which this would be justified." One is not in favor of it because of harm that might be done, and one contributor-pair is against it because of harm that has been seen.

A larger group believe the procedure to be justified, but only for exceptional cases or under exceptional circumstances. Two of them, however, add that because of difficulties involved, including the obtaining of the consent of the patients and the cooperation of a surgeon, the measure is "not very practical" or is "practically impossible," and that other means can be depended upon for either diagnosis or classification. Three would use it—as a last resort—only for diagnosis of the disease, and another has used it almost entirely for that purpose. On the other hand, one pair has used it chiefly for classification, and one contributor has used it extensively for that purpose but evidently as a matter of investigation.

As for the question of justification in terms of information gained, several replied in the affirmative, one or two indicating that only in that way was the diagnosis of the disease established in the cases involved. Others vary in their expressions, saying in effect that the results were "occasionally" of value in this respect, or, on the other hand, "sometimes not helpful." Another point of view is that such examinations provide "interesting information," or are necessary for an understanding of the disease; but that does not bear on the point of the inquiry.

As for harmful effects, most of the contributors have seen none, although two of them point out that the patients concerned already had sequelae of nerve damage. One tells of a case of footdrop seen in someone else's service, and one report emphasizes painful cicatrices and permanent functional incapacity. Three contributors describe the specimens which they take as thin, long pieces not penetrating deeply, in one case apparently limited to the capsule. It is understandable that taking such specimens would entail only negligible if any disability, sensory or motor, because of the fact that nerve trunks consist of fasciculi which anastamose along their course and are not simple fiber bundles which remain separate as in a

telephone cable. It need hardly be said that excision of pieces of thickened superficial nerve branches in relation to lesions, even of so large a nerve as the great auricular, can be done with impunity—but, again, that matter is in question.

It is noteworthy that the contributors who report having done nerve biopsies are divisible into two groups, widely divergent with respect to the numbers of such examinations made. On the one hand are five who have done 10 or less. These have evidently confined themselves strictly to exceptional cases, for diagnostic purposes. In contrast are about the same number of contributions reporting from 30 to 75 examinations, more or less, although some of them include cutaneous nerves in their totals. These men have done this work on an investigational basis, and with one exception have published on the subject. The exceptional one, who reports about 30 examinations of peripheral nerves, took advantage of ulnar transplantation operations to get most of his specimens, obviously for study.

In conclusion, it is evident that in actual practice relatively few leprologists perform biopsies on trunk nerves for diagnostic purposes, and that in general they do it only rarely, in exceptional cases, and almost entirely for diagnosis of the disease. As certain of the contributors point out, type diagnosis can usually be made by other and less drastic means. The impression that may be gained from the recent literature on classification, that nerve biopsy is an accepted or standard procedure in that connection, would thus appear to be erroneous.

—H. W. Wade