

LEPROSY IN NEW GUINEA 7

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In view of the interest that always attaches to the introduction of leprosy into a new country, the following short account of its history in this Territory is presented.

Native information in this district dates the first cases from the beginning of this century, probably in laborers returning from other Pacific islands. A report made in 1914 by a medical officer under the German regime states that a few lepers were known and segregated near their villages. The first admission to hospital was in 1918, and after that year a few cases were admitted from time to time, mainly for segregation since no treatment was given. In 1926 a few foci of the disease were discovered in the Madang District, north-east New Guinea, and a small island colony was formed there.

In the district of which the writer is in charge, New Ireland, 32 cases were discovered on New Hanover in 1928 and were sent to Madang. Soon afterwards more cases were brought in by patrols, and a small island near Kavieng was used for their segregation, where treatment by injections of moogrol was begun. The numbers admitted increased rapidly, and at the end of 1932 a colony was formed on Anelaua, a larger island near New Hanover, about 24 miles from Kavieng. In 1934 the Madang colony was closed and the patients transferred to Anelaua, and that institution was handed over by the then Administrator to the Roman Catholic Mission. It is now staffed by Sisters and Brothers from the mission, the medical officer in Kavieng acting in an advisory capacity, but arrangements are being made to provide a resident medical officer and a pathologist.

In this district patrolling officers, trained in the early diagnosis of leprosy, visit each village every few months and examine the whole population without clothing. In this way few early cases

are missed, as is attested by the data on recently discovered cases, to be presented here.

Population of Anelaua.—On June 30, 1935, there were 547 patients at Anelaua. Of these, 142 were admitted in 1934-35, these including 59 transferred from Madang when the colony there was closed, and 7 from other places. The population is classified as shown in Table 1.

With regard to the proportion of the sexes, there was a male-female ratio of 2.0:1, which is very generally the rule in other coun-



TEXT-FIG. 1. Sketch map of the Territory of New Guinea.

tries. It is to be remarked that in the population of this country the sexes, as usual, are approximately equal in numbers.

Among these patients as a whole there are more than three times as many classified as neural as the total of cutaneous and "mixed." It is noteworthy that the sex ratios differ strikingly in the two type-groups, for among the neurals the male-female ratio is only 1.7:1, whereas among the cutaneous and mixed cases it is

4.0:1; the disproportion is increasingly greater in the less advanced grades. In terms of percentages the difference is less striking but still definite, with 72 per cent neurals among the males and 86 per cent among the females. This proportionately great frequency of the more severe cutaneous form among the men is in keeping with the experience in some other countries that the disease tends to be less severe among women. It is of particular interest that, as will be seen, this difference does not hold among newly discovered cases.

Transferred cases.—The sex and type ratios of the patients transferred from Madang and other places in 1934 were quite dif-

TABLE 1.—Classification of cases at Anelaua on June 30, 1935.

Type of case	Number of cases	Sex		Sex ratio	Percentage of type-groups
		Male	Female		
<i>Neural:</i>					
N1	240	153	87	1.8:1	44.0
N2	168	106	62	1.7:1	30.8
N3	12	6	6	1.0:1	2.2
Total, group	420	265	155	1.7:1	77.0
<i>Cutaneous:</i>					
C1	13	12	1	12.0:1	2.4
C2	27	24	3	8.0:1	5.0
C3	24	19	5	3.8:1	4.4
Mixed	62	46	16	2.9:1	11.4
Total, group	126	101	25	4.0:1	23.0
Total	546	366	180	2.0:1	100.0

ferent from those in the total Anelaua population. Among these 66 patients there were 57 males and only 9 females, a ratio of more than 6:1. Probably there were, in the districts concerned, female patients who had not been discovered. As for type, there were only 12 cases classified as neural (18 per cent) and 30 as cutaneous and 15 mixed (82 per cent). Slight and early cases were obviously going unrecognized; the distribution as regards degree was: N1, 1 case; N2, 7 cases; N3, 4 cases; C1, 3 cases; C2, 11 cases; C3, 16 cases.

New cases.—The 76 new cases admitted from New Ireland in 1934-35 offer a sharp contrast to the foregoing. There were only 49 males to 27 females, a ratio of 1.8:1, and 90 per cent of the entire lot were classified as neural. The 45 cases admitted since then (July 1 to December 1, 1935) show the same proportions, the sex ratio being identical (1.8:1), and the neural cases comprising 89 per cent of the total.

In these 121 new cases (76 in 1934-35 and 45 more recently) there is not seen the difference between the sexes as regards the type of disease as exists in the total population of Anelaua; in fact the difference completely disappears. Taking them together (since separately the two groups are almost identical), 91 per cent of the males and 88 per cent of the females were classified as neural. It is noteworthy, and probably significant, that in all but a few of these cases the disease is comparatively early, with little difference between the sexes. The figures for the entire group are: N1, 71 cases; N2, 36 cases; N3, 2 cases; C1, 6 cases; C2, 1 case; C3, no case; mixed, 5 cases. The difference between these figures and those for the transferred cases is striking. It would be of much interest to observe whether the proportions would change in these same cases with the passage of time (as might be expected if, as some believe, the disease is more liable to progress to the cutaneous type in males), but it is not possible to make such an observation because to do so it would be necessary to withhold treatment.

Age.—With regard to age, in the majority of our patients the first lesions appeared from about puberty to early adult life. In about 10 per cent of them the lesions were apparent during childhood. Both extremes of age are represented; thus we have had several children of 2 years with definite lesions (in each case the mother was a leper), while several persons of over 50 have presented early hypopigmented anesthetic patches. In some villages on New Ireland, where the disease has only been introduced during recent years, a number of middle-aged natives have contracted it. In countries in which the disease has been endemic for centuries it may be true that most infections take place during childhood, but it is certainly not the case here.

Source of cases.—A great majority of our cases at Anelaua (446, or 82 per cent) came from the New Ireland District, and of these an almost equal majority (346, or 78 per cent) came from the New Hanover subdivision. The incidence of the disease in the New Ireland district as a whole is about 11 per millé, and in New Hanover 59 per mille. In the New Hanover villages that were infected earliest the incidence is now over 200 per mille—more than 20 per cent of the people.

The evidence that leprosy was introduced into New Hanover only during this century is conclusive, and although the spread of the disease has been rapid, in the majority of cases it has been mild, which is against the experience of other countries. Although the New Hanover language has a rich vocabulary it has no name for leprosy, but has adopted names for the different manifestations. Thus *kal* (a smooth pigmented scar) has been given to the early neural patches, *tapok* (a dead tree with falling limbs and bark) to advanced neural cases, and *karigot* (a vine with a nodular stem) to nodular lesions.

In contrast to this is a group of islands, the Squally Islands, located in this district but somewhat isolated, near the equator. In a population of nearly 2,000 we have collected in recent years 12 lepers, all early neural cases. The natives denied all knowledge of the disease and we concluded, erroneously, that it had been introduced recently. Since then, however, the natives have become more communicative, and have told us that the disease has been known among them from time immemorial. They have one word covering all the different lesions of leprosy, but everything connected with the disease was *tambu*, the death penalty being inflicted for merely uttering the name. They state that strict isolation was carried out on the first appearance of lesions, and lepers were not allowed to marry. They recognize the communicability of the disease from man to man. These natives have a strong Malay strain in them, and it is possible that the disease was introduced by Malays many centuries ago.

Treatment.—On account of the widely scattered population and the difficulty of transport, the only way of giving treatment to these people is to segregate them in a colony. In 1932, on the grounds of economy and on account of several favorable reports from other countries, alepol was adopted for treatment in place of moogrol. In-

tradermal and intramuscular injections of 3 and 4 per cent solutions are given twice a week. In early cases very encouraging results have been obtained, but advanced cases have shown no benefit. Of our 546 cases, 52 have been clinically and bacteriologically negative for various periods, and are under observation pending discharge. In nearly as many more the lesions have disappeared, but too recently for them to be classed as quiescent. Since the average period during which the patients have been under treatment is not long, this result is encouraging. A large supply of ethyl esters has been ordered and treatment with them will be resumed.