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The Secretary of the Expert Committee on Malaria

has the honour to communicate herewith the

Conclusions

of an unpublished paper on

MALARIA IN PREGNANCY AND INFANCY IN THE
AFRICAN POPULATION OF SOUTHERN NIGERIA

(Item 1.1 of the Agenda and pro-parte 1.4)

by

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regretting that, on account of stringency of time, it has been impossible to circulate the paper in its entirety with all its graphs.

Conclusions

CONFIDENTIAL

The results of the series of investigations reported here tend to bring out a few points in order to have a clearer picture of the natural history of malaria in a sample of the indigenous infant population of Southern Nigeria exposed to conditions labelled as hyperendemic in CHRISTOPHERS' original sense of the term, and due to a high perennial intensity of transmission. (POYB, 1949)

The general sequence of immunological events was recently described by BAGSTER WILSON, GARNHAM and SWELLENGREBEL (1950). It leads through an initial congenital passive immunity to the acquired immunity, the latter composed of a brief phase of acute infestation and of a long period of immune infestation. Bearing these main points in mind, the present investigation can be summarized as follows.

The average incidence of malarial parasitaemia (principally P. falciparum) was 27.6 per cent in pregnant and 33.3 per cent in parturient African women. The incidence of the malaria infection of the placenta was 23.6 per cent.

There was no obvious evidence of a relationship between the incidence of maternal malaria and the rate of abortions or stillbirths.

Congenital malaria in African new-born babies is very rare; there was one doubtful case out of 545 new-born - a percentage of 0.18.

The average weight of 248 new-born babies attached to non-infected placentae were about 150 g. higher than the corresponding weights of 62 new-born babies whose placenta was found to be infected. The same applies to the frequency of distribution of grouped weights of new-born babies; the low weights were more frequent in the infected group. However, neither of these two differences were found to be statistically significant, and in the present series they might have arisen by the operation of chance alone.

There was no significant difference between the first week mortality rate of 35 new-born connected with an infected placenta as compared with 130 new-born whose placenta was normal.

An investigation of a sample of 138 African infants followed up from the age of less than one month throughout the first year of their life has revealed that during the first quarter the rate of malaria infections is 3.0 per cent; this rate increases to 14.0 per cent during the second quarter, to about 50 per cent during the third

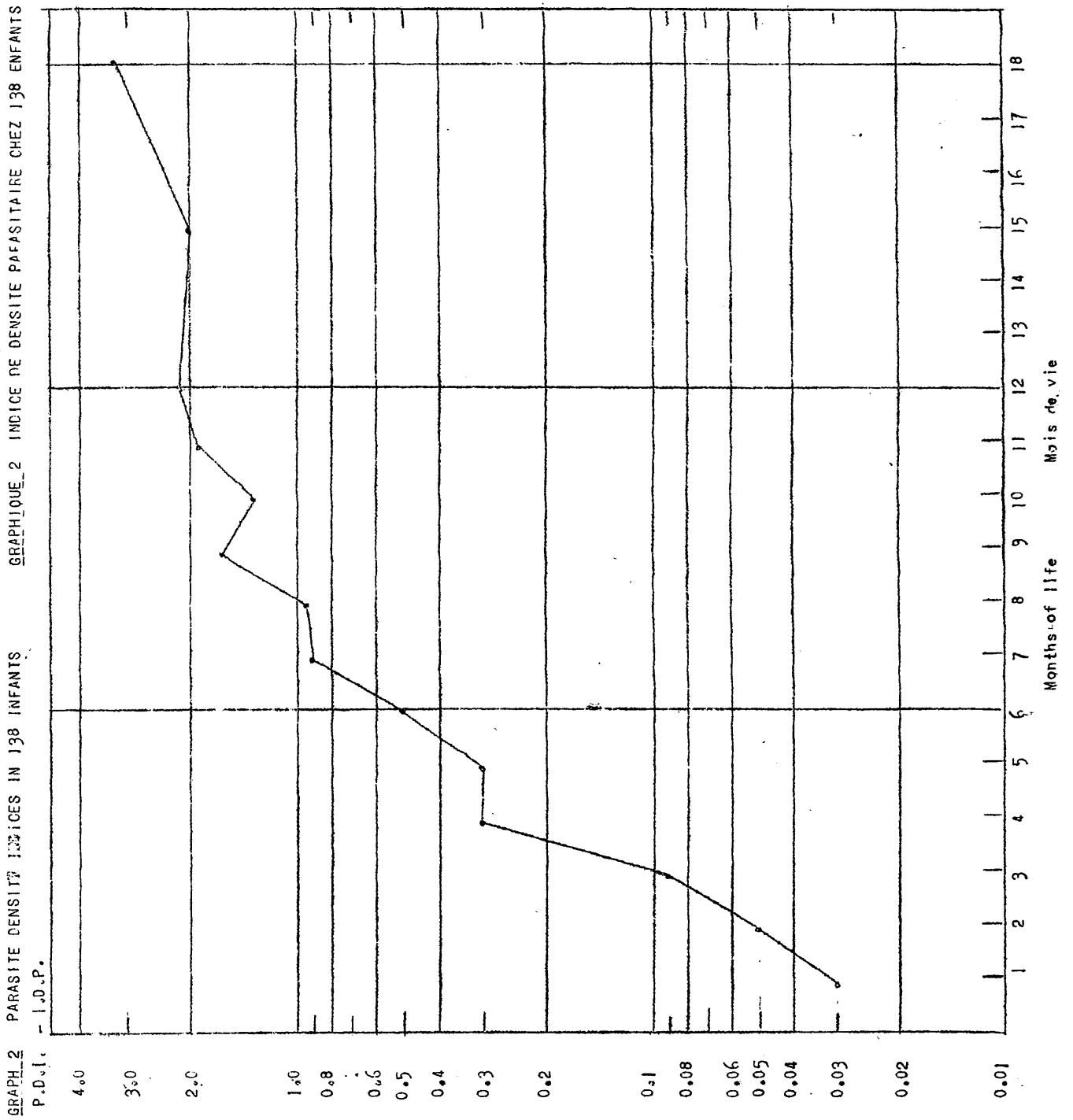
quarter, to over 60.0 per cent during the fourth quarter. Nearly all children are infected thereafter. Most of the first infections are contracted during the second half of the first year.

Periodical follow-up of weights of infants has revealed that in the average both the infected and non-infected children show a steady rise of their weight curves up to about five months of age. From that time onwards the mean weight curves of both groups of children flatten out as compared with a "normal" curve, but the downward trend of the curve in the infected group is more pronounced. It is difficult to distinguish between the cause and the effect and the higher frequency of infections in this group may be due to malnutrition or vice versa.

The difficulty of generalizing the average results obtained from a sample is shown on five groups of weight curves registered in infected children. It appears that in 74 per cent of infections the effect on weight was small or transitory, while in 15 per cent this effect was very marked.

The importance of malaria in the causation of deaths of infants and children investigated on the basis of post-mortem records in Lagos shows that acute malaria could be incriminated as a cause of death in about 9 per cent of post-mortems of infants. The respective rate rose to 13 per cent in early childhood. It fell to 7.4 per cent in the first school age group, to 3.6 per cent in the second school age group and to less than two per cent in the adolescent group.

These figures refer to about 5-10 per cent of total deaths occurring in the respective age groups in Lagos and they were drawn from a highly selected sample.



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GRAPH 1 GRAPHIQUE 1

Parasite Rates (random sample) and individual infection rates in 138 African infants.
Indices parasitaires (pris au hasard) et taux individuels d'infection chez 138 enfants africains.

