Medical Matters.

THE EPIDEMIOLOGY OF MALTA FEVER.

Colonel David Bruce, C.B., F.R.S., R.A.M.C., has summarised in a pamphlet, entitled "Recent Researches into the Epidemiology of Malta Fever," the remarkable results obtained by the Commission sent out to Malta by the Royal Society to investigate and if possible to find out the cause of Malta fever. The *Lancet* states that the members of the Commission set to work to determine how it was that the micrococcus Melitensis left the body, how it behaved outside the body, and how it gained entrance into the body, and as the result of their inquiries they determined that it left the body by the urine. Outside the body the organism was found to be fairly resistant to external influences, except to direct sunlight, which killed it in a few hours. Does it gain an entrance by contact? No case has been known of its arising among the patients, orderlies, or nursing sisters from any of the patients invalided home to our naval or military hospitals. The Commission also failed to find any evidence that inhalation of infected dust, or mosquitos, played any important part. But Malta fever can be conveyed to healthy animals by way of the alimentary canal. A single drink of fluid containing but few micrococci almost certainly gives rise to the disease. But the Commission at first saw no reason for suspecting the water supply or any particular foodstuff. At length, however, it was discovered that the goats in Malta acted as the reservoir of the virus of this fever, for 50 per cent. of these animals in Malta responded to the agglutination test, and actually 10 per cent. were found to be secreting the micrococcus in their milk. Monkeys fed on milk from an infected goat, even for a day, almost invariably took the disease. The example of Gibraltar clinches this opinion that the infection is propagated by the goats, for the disappearance of Malta fever from the Rock is associated with the disappearance of the Maltese goat from the Rock. Preventive measures in accordance with this discovery were begun in Malta in June, 1906, and a remarkable diminution of the fever at once set in; the cases have dropped to one-tenth of what would have been their normal number, whilst since goats' milk has been forbidden in the Royal Naval Hospital not a single case has occurred or can be traced to residence in the hospital. The Commission of the Royal Society would thus seem to have made, says our contemporary, a most valuable discovery. Malta now has a chance of being converted from one of the unhealthiest stations of the British Navy to one of the most salubrious, and the expectation is founded upon solid arguments. The Royal Society and the members of the Commission are to be congratulated on the investigation.

THE THIRD FACTOR IN THE ETIOLOGY OF BLACKWATER FEVER.

Dr. W. J. Buchanan, M.D., Major I.M.S., referring in the *British Medical Journal* to an article by Dr. J. W. W. Stephens on blackwater fever, which disease in the Duars and Terai tea-planting districts of India has recently had considerable attention drawn to it, says:

I confess to having been strongly opposed to the theory which ascribed blackwater fever to malaria, assisted by quinine. It is difficult, however, to resist the facts and closely reasoned arguments used by Dr. Stephens in the article just mentioned, but while one may agree with Dr. Stephens that intense malaria *plus* quinine can and does induce hæmoglobinuria, still the fact remains that, in the districts where both intense malaria and blackwater cases are found, there are many bad cases of malaria which are treated successfully by quinine in which no such untoward symptom as blackwater occurs. Hence, while admitting the two factors, namely, malarial attacks of greater and lesser frequency and quinine, not necessarily in large doses, still I think that the real clue to the etiology of this disease may lie in Plehn's suggestion that a kidney lesion is one of the essential factors. On this view we have three factors, namely, malaria infection, use of quinine, and a lesion of the kidneys.

This, it seems to me, might explain the scattered incidence of the disease in the same district, where intense malarial fevers are common, the use of quinine universal, but the third factor, a diseased kidney (we can understand), will only rarely be present also. In this way the state of the kidneys acquires a prognostic significance equal to that which it has in the prognosis of cholera attacks, and possibly it may be found that, in regions where bad malarial fevers abound and also blackwater fever, it would be wise before administering quinine to make an examination chemically and microscopically of the urine, and to avoid using this drug where the microscope gives evidence of a kidney lesion. The exact nature of the kidney lesion which (on this hypothesis) joins in precipitating an attack of hæmoglobinuria would, therefore, be a subject for further inquiry.

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