

Occasional Notes.

GENERAL PARALYSIS AND ITS TREATMENT BY INDUCED MALARIA.*

Report by Surgeon Rear-Admiral E. T. MEAGHER, R.N.(retd.).

THIS long-expected report is prefaced by an interesting historical survey of the disease, written by Sir Hubert Bond. Observations by various physicians and pathologists are traced from 1822 to 1922. Though the disease has long been recognized as an entity, it was not till 1884 that its syphilitic origin was hinted at by W. Julius Mickle. The untiring pathological and histological researches of Mott, the discovery of the spirochæte by Schaudinn, the advent of the Wassermann reaction were the final events in the elucidation of the actual causation of dementia paralytica. It only needed the discovery in 1913 by Noguchi and Moore of the living spirochæte in the brain "to silence many conjectures and arguments." Yet, while admitting the syphilitic origin, it is well to bear in mind the influence of other factors, *e.g.*, drink, stress, toxic conditions, which might be justifiably considered as being capable of lighting up or accelerating the progress of the disease.

In Admiral Meagher's report the investigation is limited to patients certified as insane, and consequently many of the cases were of some months' duration at the time of their admission to mental hospitals. The prime object of the report was to ascertain, in cases of general paralysis treated by induced malaria, to what extent (*a*) life is prolonged, (*b*) improvement, mental and physical, takes place.

The first inquiries were directed to those hospitals where malarial treatment was not practised (apparently in some 55 county and borough mental hospitals). It was decided to review the fate of those untreated cases. Lists were compiled with the utmost care of all patients suffering from G.P.I. who were admitted to those hospitals in the years 1923 and 1924. The returns were received in August, 1927; deaths were verified, transfers to other hospitals

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traced, readmissions were noted, and those who remained alive were visited in hospitals and those discharged personally followed up outside.

The results ascertained towards the end of 1927 for the year 1923 can be shown :

Admissions	624.
Deaths	560 = 90%
In hospital	52 = 8%
Discharged	12 = 2%

Of those still in hospital it is noted that they have reached the last stage of the disease, with the exception of two, who are described as typical chronic general paralytics.

The discharged cases are dealt with individually; all were mentally abnormal; "unable to do any work, bedridden, demented, wet and dirty, need more care than a child," describes their condition.

Similar investigations were made for the year 1924.

Exactly the same procedure was adopted for those cases *treated with malaria* in 1923 and 1924. Malaria therapy, however, was first commenced in this country in July, 1922, by Dr. Clark, of Whittingham.

The figures from 11 mental hospitals in 1923 are :

Treated	152
Now dead (1927)	71 = 45%
In hospital	45 = 30%
Discharged	36 = 25%

The figures from 22 mental hospitals in 1924 are :

Treated	286
Now dead	120 = 42%
In hospital	94 = 32%
Discharged	72 = 26%

Of the discharges, the report for the year 1924 may be quoted :

"Of the 67 about whom definite information has been gained, it was found that 39 were at work as wage-earners, 5 others were temporarily 'unemployed,' 10 were engaged in their ordinary household duties, 4 do part-time work, and 4 others do no work on account of physical disability or other cause unconnected with general paralysis. There are 5 who show progressive mental and physical degeneration, and whose working capacity need not be considered."

The general condition of the treated cases still in hospital is undoubtedly better than that of the untreated cases; roughly one-third showed mental and physical improvement, a like proportion remained in the same mental state, though physically improved,

while a slightly smaller proportion had degenerated both mentally and physically.

By comparing the "treated" with the "untreated" figures it is seen that the difference in the survival rate is very striking, namely, 56% compared with 10%; moreover the discharged patients who had malaria therapy formed 25% of the total treated, and the majority were capable of earning wages.

In spite of these convincing figures the author raises the possibility of fallacies—the question of diagnosis and the selection of cases for treatment.

Regarding spontaneous remissions, he says: "Remissions met with in untreated cases denote a transitory, illusory and imperfect improvement, and complete remission of a year's duration is extremely rarely met with. Remission such as to justify the discharge of a patient may occur in 2 to 3% of cases. No case came under notice in which a complete recovery from general paralysis was satisfactorily established, and their number must be extremely small."

A detailed account of the discharged cases is given, describing their various occupations and other social factors. Indulgence in alcohol is deprecated. Reviews of cases treated in 1925, 1926 and the first half of 1927 follow.

In five years nearly 1,600 cases received malarial therapy. Allusion is also made to the possible advantages of malaria induced by mosquitoes. At Horton a treatment centre was established in 1925, and by arrangement between the London County Council, the Board of Control and the Ministry of Health a supply of infective mosquitoes with a pure strain of benign tertian malaria is maintained, to meet the demands of mental and general hospitals throughout England and Wales.

Mention is made of the need for reinforcing the malaria by some supplemental treatment, such as tryparsamide. After-care and the following-up of discharged cases is advocated. Stress is laid on the importance of treating cases in the earliest stages of the disease.

In analysing the causes of death little doubt is left that malaria itself is a potent factor, as the death-rate is exceptionally high in the first and second months—40% of the total deaths took place in the two months succeeding inoculation. The treatment demands extreme care, though in view of the results obtained risks must be run. If possible, microscopic examination of blood should be undertaken during fever; much benefit may accrue from the temporary abortion of fever, which can be checked for a week or 10 days by a single dose of 5 gr. of quinine.

In an appendix to the report is given an account of the work of various continental clinics. At Vienna Prof. Wagner-Jauregg says that deaths from malaria have ceased to occur, on account of careful cardiac treatment and quinine control.

In all continental centres visited it was found that supplemental treatment was being given.

One great advance is worthy of record, and that is the ease with which the early cases are dealt with abroad. Delay in treatment in this country because of the legal requirements of a certifiable disorder is to be deplored. On the Continent every facility is given for early treatment. In Austria "cases may be received in the clinic and remain there for malarial treatment without restriction; or they may be received there and detained when sent either by the police or with two doctors' certificates, if, on examination, detention is found necessary." In France the law permits that cases may be detained for treatment. In Germany treatment is largely employed, but may only be given in certain centres approved by the Board of Health, thus ensuring expert supervision. In Holland cases may be received for treatment voluntarily or on an order for detention, and those who do not recover are drafted to the mental hospitals.

Admiral Meagher is to be congratulated on an exhaustive inquiry, which is characterized by an unfailing endeavour to arrive at the truth, while observing the strictest accuracy and care in compiling statistics. From an examination of the report one cannot fail to be impressed with the great advance made in the treatment of general paralysis by the use of malaria, which at present must surely be accepted as the treatment *par excellence*.