

infrequently met with by those who have to examine large numbers of youthful delinquents. This deduction is amply borne out by my experience, which convinces me of the great importance and value of the subsection of the Act which brings them within its meaning.

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### Clinical Notes and Cases.

*The Treatment of General Paralysis at Hanwell Mental Hospital.* [Reported by G. A. LILLY, M.C., M.A., M.D. Camb., D.P.M., Assistant Medical Officer.]

In July, 1923, the Hospital for Tropical Diseases at Endsleigh Gardens enabled us to inoculate our first general paralytics with malaria (*Plasmodium vivax*), and eventually 36 patients (29 men and 7 women) were so treated.

For administrative reasons, the inoculation of patients suffering from general paralysis was discontinued at Hanwell Mental Hospital in March, 1924; after that date, such cases as were deemed suitable were transferred to other London County Mental Hospitals for malarial treatment.

It was thought that little useful information could be gained until a considerable time had elapsed to allow the results some degree of permanency on which to base conclusions, and even now it is premature to pronounce more than tentative judgment on the later patients who have returned to civil life.

The process of inoculation was that usually carried out at most hospitals, *i.e.*, 3 c.c. of infected blood was withdrawn from a vein of the donor, and injected subcutaneously into the arm of the recipient; in 3 cases, however, mosquitoes which had previously been fed on an infected patient were used to inoculate patients. These mosquitoes were supplied and the inoculation supervised by Lieut.-Col. S. P. James, M.D., of the Ministry of Health.

At first the course of the malarial fever was controlled by the clinical picture, but later, blood slides were taken daily and the degree of infection watched. An end to the fever was obtained by 2-gr. doses of quinine sulphate, given three or four times a day for two months, and in no case was it found necessary to give more. No signs or symptoms of malarial trouble reappeared after the first administration of quinine.

It was noticed, however, that the cases which were inoculated in January, 1924, exhibited more serious rigors and experienced greater prostration than those inoculated at first. The seriousness of the clinical condition corresponded also with a greater number of parasites detected in their blood-films.

As no further cases were inoculated at Hanwell after March 14, 1924, the question as to whether the strain was becoming too potent did not arise, but on inquiries being made at Colney Hatch Mental Hospital, to which the Hanwell strain of malaria was passed, it was learnt that the strain, far from becoming too potent, was becoming attenuated, and steps had been taken to refresh it.

As this weakening of the strain seems to be a common feature in the London County Mental Hospitals, perhaps the Hanwell cases which exhibited severer reactions to inoculation were patients who had an idiosyncrasy to malaria.

A tree is attached to show the path of infection from patient to patient.

The patients underlined are female; the dates behind their initials are those on which the injections took place, and those patients marked with \* were bitten by mosquitoes previously fed on the patient marked \*\*.

In the case of the male patient A. V. P—, the bites of the mosquitoes did not result in fever, and he was later syringe-injected (with a successful result) from a patient who had been inoculated by mosquitoes. The women were all injected by syringe, and where a name appears twice, the injection on the first date was unsuccessful.

In reviewing the 29 male cases treated by malaria, it will be seen that 19 are living and 10 have died; of these, 3 died while the malaria was still active.

Of the 19 living, 12 are still in a stationary condition while 5 have been discharged recovered, and satisfactory reports have been received either from the patients themselves or from their nearest relatives; 1 is about to be discharged as recovered from Rainhill Mental Hospital, where he was transferred on December 23, 1924, and 1 is greatly improved, but remains at Hanwell. The results of the treatment of the female cases are even more satisfactory. In all, 7 women were inoculated; of these 2 are now in a stationary condition, 1 has died, and 4 have recovered and have been discharged. Letters have been received from their relatives to say they are keeping well mentally, and are in good physical health.

Thus the series of all 36 cases can be divided into three groups, A, B and C.

*Group A.*—10 cases—those which have improved so much that they have been discharged as recovered and returned to home life.

*Group B.*—15 cases—those which have improved too little or have not changed as the result of treatment.

*Group C.*—11 cases who have died.

V. J. G.—This patient was a police constable, and was admitted presenting a clinical picture of extreme confusional insanity, extreme restlessness, inability to appreciate the intentions of those around him, full of irrational statements and noisy and abusive. The history given by his wife states that although he had been queer for some time, the confusion only appeared about 14 days before his admission.

The physical examination revealed nothing pathological, except a sluggish pupillary reaction to light and shade. He admitted that he had had syphilis, and that he had been treated at Rochester Row Hospital on February 4, 1910. On further questioning he stated that he had been attending the Maudsley Hospital, and from there he was sent, still very ill, to the Infirmary. On making inquiries at the Maudsley Hospital it was learnt that his conduct became too unreliable for further treatment there, and that while there his serum and cerebro-spinal fluid were found to be both strongly positive to the Wassermann reaction.

He was inoculated at the Tropical Diseases Hospital on July 12, 1923. He exhibited the usual signs and rise of temperature of malarial fever until it was controlled by quinine sulphate on August 5, 1923.

By September 10 considerable improvement was noticed, the intellectual confusion was gone, insight had returned, and he was able to appreciate the meaning of what was said to him, but a certain amount of emotional instability was still present, but to a far less degree, when he was discharged to the care of his friends as "recovered" on October 29, 1923.

A letter was received in January, 1925, from his wife, who states that he is "doing well," and earning his living as a doorman at a cinema.

C. B—, a merchant seaman, æt. 28 when admitted on February 26, 1923. His wife gave a history of change of personality of six months' duration, but it was not until 14 days before his admission that his irrational conduct, mental inertia and emotional depression caused her to suspect him of being out of his mind.

On admission he was emotionally depressed and intellectually deluded about the purport of a telegram he states he saw a little girl tear up—he was convinced it was for him, stating his father-in-law wanted him at once in Bristol. He was confused, and expressed other irrational statements.

Physically he was in fair condition and health, but his pupils were unequal, did not react to light, and his speech was slurred. On May 14, 1923, his cerebro-spinal fluid was found to be strongly positive. He was inoculated with malaria on July 29, 1923, unsuccessfully, and again on August 11 successfully, developing a rigor and rise of temperature on August 14. On September 4, 1923, quinine was administered. He improved steadily. Physically his pupillary signs did not alter, but his speech became clearer and his whole condition stronger. Mentally, however, the improvement was remarkable, his irrational statements had ceased, he argued logically, criticized his past conduct with insight and appeared quite well.

He left the hospital recovered on December 7, 1924, to resume his work as a seaman.

In answer to our request for information about him in January, 1925, a letter was received from his mother, stating that the patient had made two voyages in a Red Star liner to New York, and then worked his way as A.B. in a Cunarder to Australia. In Australia he had found employment in a hotel as handyman. He wrote home in the beginning of January, 1925, saying he was happy and doing well. The mother stated that his handwriting had improved a great deal since his first letters home.

G. E. G.—This patient was a jeweller by trade, who since the war had attempted poultry farming.

He was admitted æt. 45. Mentally he was boastful about his racing successes; was euphoric and extremely elated. He was amnesic, gave contradictory answers to questions, and was generally irrational in what he said and did. He claimed to be a baronet and to have plenty of money.

Physically he had a tremulous tongue, his speech slurred, was ataxic in gait, knee-jerks were absent, Rombergism was present, pupils did not react to light, and the right was larger than the left. He also suffered from apical tuberculosis on both sides and cavity-formation was suspected in the right lung.

He was inoculated on September 8, 1923. The malarial fever commenced on

September 18, and was controlled by quinine on October 8. He improved mentally very rapidly, but physically was very handicapped by his tuberculosis, and took a long time to convalesce. By December 10, 1923, he improved so much mentally that he was sent out on trial to his wife, although in a poor state of health, and finally discharged as recovered on January 7, 1924.

On discharge the physical signs of nervous disease were absent knee-jerks, slight slurring of articulation, slight tremors of the tongue, which was less than on admission, and he only swayed very slightly on standing with shut eyes and his feet close together. Mentally he was quiet and composed, had insight and was rather serious in manner as he realized the nature of the disease for which he had been treated.

*M. H. R. A.*—This patient was a German hairdresser, æt. 51, who was admitted as a typical general paralytic on December 22, 1923. He was elated, had no insight, was confused and boasted he was worth £93,000, and could give anyone what they asked for in the way of money. Physically he was in fair health and was well nourished. He hesitated in his speech and pronounced his words carefully and spaced them, but did not definitely slur. The knee-jerks were absent, pupils unequal and didn't react to light, and the consensual reflex was also absent.

He was inoculated January 15, 1924; rigors started on January 24, and quinine was administered February 2. He improved rapidly, and was eventually discharged as recovered on August 18, 1924.

On two occasions has he written to say that he is keeping well, one letter from Southend in September, 1924, when recuperating by the sea, and another from Delkey, near Dublin, where he had obtained a post as assistant hairdresser. He writes them himself in a clear, firm hand, although the wording is that of a foreigner.

*J. M.*—, a ship's fireman, æt. 29, was admitted October 26, 1923, mentally confused and acutely hallucinated, being persecuted by abusive and threatening voices. The lack of sleep and restlessness that these hallucinations caused rendered him physically exhausted. Neurologically he presented only unequal pupils which did not react to light.

He remained acutely hallucinated, and exhibited phases of confusion and he had to go to bed on account of his restlessness.

On December 23, 1923, his blood and cerebro-spinal fluid were found to be strongly positive, with an excess of cells and protein in the cerebro-spinal fluid.

On January 16, 1924, he was inoculated with malaria. From January 17 onwards he exhibited a high temperature and rigors, but large numbers of parasites found in his blood on the latter date caused quinine to be administered on January 29.

Within a very few days of cessation of the fever mental improvement was noticed; the acute hallucinations became fewer and soon left him altogether. He then entered a dull and lethargic, mildly confused stage, which persisted until his transfer to Rainhill on December 22, 1924. He was considered at first a case that should belong to Group B, but in answer to a letter the Medical Superintendent of Rainhill Mental Hospital wrote on March 9, 1925, that *J. M.*— had improved so much that he was about to be recommended for discharge.

*W. P.*—, a patient æt. 57, a carman, who was admitted on January 22, 1924, in an extremely confused condition. In the course of examination he was found to be well nourished, but to have chronic bronchitis and emphysema, and to be suffering from psoriasis on the elbows. Neurologically he was generally tremulous, his gait was ataxic, his knee-jerks were absent and Rombergism was present. His pupils were pin-point, reacted to accommodation, but failed to light.

An examination of his cerebro-spinal fluid and serum revealed a strongly positive reaction in both.

He was inoculated March 14, 1924; rigors commenced March 28, and were controlled by quinine on April 5.

He improved mentally, but although he gained in health, his neurological signs of paresis did not alter. Finally he took his discharge to the workhouse on October 4, 1924.

In January, 1925, in answer to our letter of inquiry, he wrote to say he was going on very well, but was kept in the infirmary on account of a recrudescence of his skin trouble.

*A. W.*—(female), a married woman, *æt.* 34, who was admitted on May 8, 1923, presenting great mental confusion and restlessness.

Physical examination revealed general and tongue tremors, irregular pupils and sluggish light reflex, otherwise nothing abnormal.

The serum and cerebro-spinal fluid were returned both strongly positive to the Wassermann reaction.

On August 13, 1923, she was injected with the malarial parasite, as the previous injection on July 29, 1923, bore no apparent result. She exhibited the malarial fever from August 14 until September 8, when quinine was administered.

On March 6, 1924, slight improvement, both mentally and physically, was noticeable, especially intellectually, but she was still very unstable emotionally. Steady improvement took place all the year 1924, most marked from the intellectual aspect, and she was finally sent on trial to her father on March 2, 1925. She was discharged recovered; her physical signs had all lessened except the inequality of the pupils and a slight sluggishness to the light reflex.

*J. R. H.*—(female).—This patient, a married woman, was admitted April 9, 1923, after the birth of a child, and her breasts were still active. She was extremely confused intellectually, depressed emotionally, and purposeless in conduct.

Physically she had tremors of the tongue, unequal and Argyll-Robertson pupils, but no slurring of speech or Rombergism. Her blood and cerebro-spinal fluid were both strongly positive to the Wassermann reaction.

On August 13, 1923, she was injected with malarial parasites, the temperature became elevated on August 20, and on October 12 quinine was administered to control the fever.

By November 2 definite improvement was noticeable, and her husband at once wanted her to be sent home, but he was persuaded to leave her until March 24, 1924, when she left much improved, although still somewhat foolish.

The physical signs had not altered except that the tongue tremor was hardly distinguishable; she was, however, in much better health and in stronger condition.

In January, 1925, the husband answered our letter of inquiry and stated that she was "quite well in herself, and only troubled by an ulcer on the leg."

*J. W.*—(female), a married woman, *æt.* 36, who was admitted on September 20, 1923, in an extremely confused condition, who said she was a millionaire, and who was depressed at one moment, for no reason she could explain, while being, shortly afterwards, as unreasonably elated.

Physically she could not walk steadily, as she was feeble, but no Rombergism was present. She slurred her speech and exhibited tremors of tongue and lips. Her pupils were unequal, did not react to light, and were sluggish in accommodating.

On October 3, 1923, her blood was strongly positive to the Wassermann reaction. On October 6, 1923, she was inoculated, and from October 23 suffered from malarial rigors until November 7, when quinine was administered.

She improved considerably. The confusion and the motor restlessness cleared up as soon as the quinine was administered; she remained emotionally unstable, and intellectually was simple and childish. She was discharged on April 10, 1924, before it was desirable, but owing to the husband's urgent wish.

He writes, in January, 1925, to say she is very well indeed, and he has nothing whatever to complain of with regard to her mental condition.

*E. E.*—(female).—This patient was a married woman, *æt.* 29, who was admitted on January 21, 1922.

She was emotionally unstable, amnesic, and unable to give a clear account of herself. She was excitable and garrulous, and wrote numerous letters and descriptions of obscene acts on pieces of paper. When contradicted or controlled in any way she was noisy and used very foul language.

She presented no physical signs except a fixed left pupil in a dilated state. As there was a history of iridectomy this was not conclusive.

She admitted alcoholic excess and a life of excitement and immorality with men at the munitions works while her husband was at the war.

On January 26, 1922, her blood was strongly positive to the Wassermann reaction. She was treated vigorously with neoarsenobillon, but did not improve, and by July 25, 1922, she had entered a fat and stuporose condition with considerable tremor of lips, tongue and hands. While in this state she was injected

with malarial blood first on October 23, 1923, with no result, and later, on November 7, 1923, with a successful result.

She did not experience many rigors and was therefore allowed to exhibit mild rises of temperature until December 14, 1923, when quinine was administered. By January 7, 1924, she was happy and fat, and about the ward working. She steadily improved, became much thinner, firmer in all her movements and intelligently active. She was discharged as recovered on February 28, 1924.

Her husband writes in answer to our letter of inquiry in January, 1925, to say that "his wife is going on splendid and keeping in the best of health."

A short note has been given of each of the cases in Group A, as the interest lies chiefly in this group, and it is from these cases that most of our conclusions are drawn.

As the treatment was being tried for the first time at Hanwell, no selection of the cases was carried out beyond the fact that we were satisfied that they were cases of general paralysis, and were physically strong enough to undergo an attack of malaria.

Unfortunately it was not possible to obtain a satisfactory specimen of cerebro-spinal fluid before treatment in every case. The conduct of some of the patients would not permit lumbar puncture, or the fluid was stained by blood. In Groups B and C this does not matter much, but in considering cases in Group A some doubt may be felt as to a correct diagnosis.

However, when those three cases in Group A are examined—J. W— and E. E—, female, and G. E. G—, male—it will be seen that they are undoubtedly cases of general paralysis. E. E— at first might have been considered a case of excessive alcoholism with syphilis, but when she entered the fat and fatuous tremulous stage the diagnosis was certain.

The age of the patients at which the inoculation was performed did not seem to influence the result of treatment; the four youngest cases to improve (V. J. G—, C. B—, J. M— and E. E—) were aged about 30, while the oldest was W. P—, aged 57; the stationary cases showed equal variations in age, as did those that died.

In all three groups the history of syphilis was unreliable. In many cases no information about venereal disease is obtainable, and in 4 cases, V. J. G—, J. M—, C. B— and M. H. R. A—, syphilis is denied; one, G. E. G—, states he was treated for syphilis ten years previous to admission to Hanwell; another, W. P—, states he was treated thirty years before, and the naval records of J. M— show he was treated in 1915. A. W—, J. R. H— and J. W— give histories of miscarriages within three years of admission, but although suggestive, this is not conclusive, and E. E— gives a period of two years. The same inconclusive information was obtained from the cases in Groups B and C.

When investigating the period that had elapsed between the onset of mental symptoms and treatment by malaria, it is noticed

that in Group A cases the longest period is two years (in the case of J. R. H—). All the others in that group were found to have exhibited mental symptoms or changes in personality within twelve months or less before treatment.

Cases were found, however, of equally short duration in Groups B and C, but here were also found cases in which a long history of mental change was noticed. The symptoms dated back in the case H. W— Group C, six years, and in cases F. M— and H. McF—, Group B, four and three years respectively.

It is probable that cases exhibiting a long history of mental symptoms are not so likely to improve as those of more recent history, although a patient with a short history has not necessarily a hopeful prognosis.

The degree of mental abnormality at time of treatment is no criterion of what is likely to happen after the malarial fever.

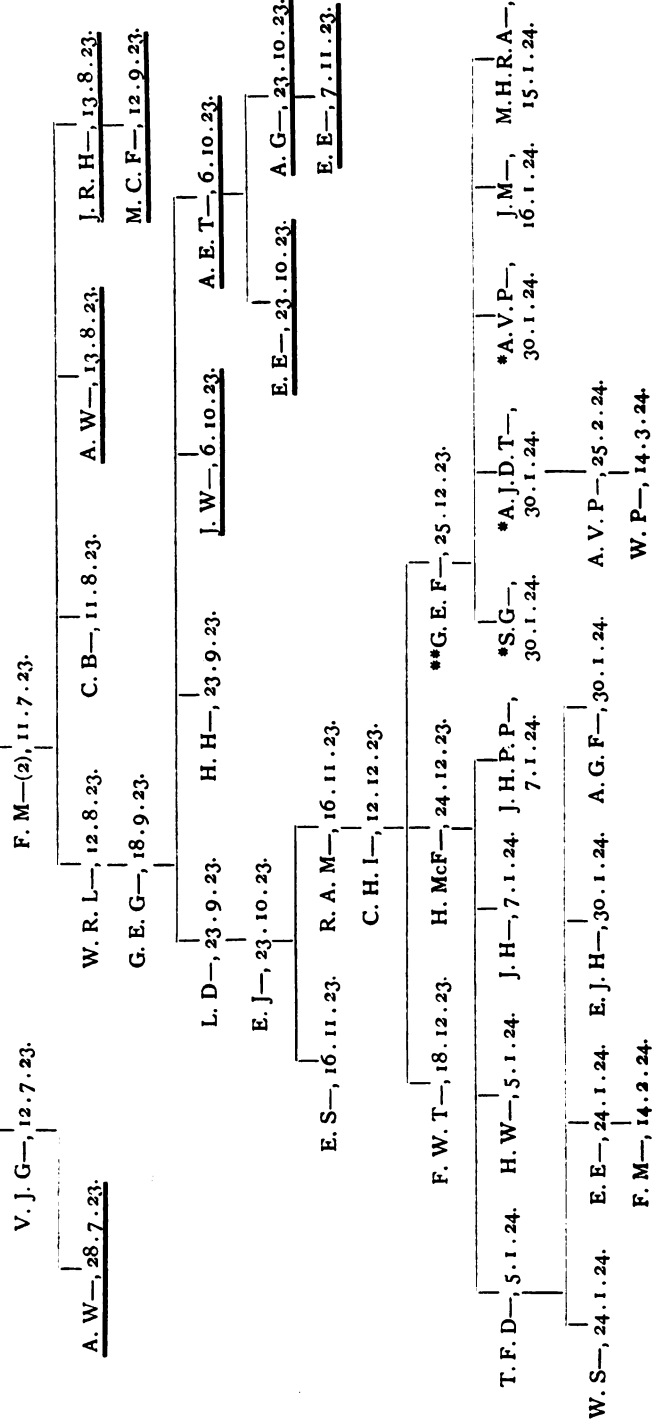
All the cases in Group A were very confused, and cases J. M—, G. E. G—, M. H. R. A— and J. W— exhibited delusions of grandeur as well, while the dominant symptom in J. M— was acute hallucinatory trouble; the same variations of mental abnormality were met with in cases in both groups B and C. In these groups confusion was met with in all cases to a greater or less degree, and delusions of grandeur were marked in A. J. D. T—, F. M— (2), E. E— (male), H. W—, and T. F. D—.

Although in Group A the mental symptoms cleared up in such a satisfactory manner, the neurological signs did not alter correspondingly, and except for a diminution of the tongue, lip and general tremors in cases E. E—, A. W— and J. R. H—, no improvement was detected. The general physical condition improved, but no absent knee-jerks returned, nor did pupils react to light or become mobile if fixed before treatment.

In two cases, S. G—, Group B, and E. E—, Group A (female), the rise of temperature was slight and the rigors not severe. They were therefore allowed to continue exhibiting mild rises of temperature for much longer than were the others. E. E— eventually recovered, whereas S. G— remains in a stationary condition.

Not a great deal of time has passed, and more certain information will be gained later on, but it is noticed that although the patients do not improve sufficiently to justify discharge, in many of the patients in Group B their condition seems to have become stationary—they neither improve nor deteriorate. It will be interesting to see whether the treatment has arrested deterioration, although it has not caused a cure.

Patient at Endsleigh Gardens Hospital.





## GROUP A.

Case.	Sex.	Date of admission.	Age on inoculation.	W.R. on serum.	W.R. on C.S.F.	Date of inoculation.	Date of first rigor.	Date of quinine first given.	Date of discharge.	Report from relatives.
V. J. G—	M.	21.4.23	31	+	9.5.23	12.7.23	18.7.23	5.8.23	29.10.23	Is earning his living, January, 1925.
C. B—	M.	26.2.23	28	—	14.5.23	11.8.23	14.8.23	4.9.23	7.12.24	Earning his living, January, 1925.
G. E. G—	M.	30.6.23	45	+40†	7.9.23	8.9.23	18.9.23	8.10.23	7.1.24	Was keeping a poultry farm when last heard of, June, 1924.
M.H.R.A.—	M.	22.12.23	51	+40†	7.1.24	15.1.24	24.1.24	2.2.24	18.8.24	Earning his living, January, 1925.
J. M—	M.	26.10.23	29	+40†	23.12.23	16.1.24	17.1.24	29.1.24	22.12.24	Transferred to Rainhill Mental Hospital.
W. P—	M.	22.1.24	57	+40†	4.2.24	14.3.24	28.3.24	5.4.24	4.10.24	About to be discharged March, 1925. Is keeping well mentally, and writes a good letter, January, 1925.
A. W—	F.	8.5.23	34	+40†	8.6.23	13.8.23	14.8.23	8.9.23	2.3.25	Doing well.
J. R. H—	F.	9.4.23	40	+40†	21.7.23	13.8.23	20.8.23	12.10.23	24.3.24	Is doing well at home, January, 1925.
J. W—	F.	20.9.23	35	+40†	3.10.23	6.10.23	23.10.23	7.11.23	10.4.24	Is doing well at home, January, 1925.
E. E—	F.	21.1.22	30	+40†	26.1.22	7.11.23	17.11.23	14.12.23	28.2.24	Is doing well at home, January, 1925.

## GROUP B.

Case.	Sex.	Date of admission.	Age on inoculation.	W.R. on serum.	W.R. on C.S.F.	Date of inoculation.	Date of first rigor.	Date of quinine first given.	Present condition.	Remarks.
L. D—	M.	15.3.20	55	+40	—	23.9.23	11.10.23	23.10.23	Stationary	—
E. J—	M.	25.3.22	43	+40	+40	23.10.23	10.11.23	22.11.23	"	—
C. H. I—	M.	6.11.23	49	—	+40†	12.12.23	18.12.23	25.12.23	"	Discharged, not improved, 7.6.24; same 25.1.25.
H. McF—	M.	21.9.23	36	—	+8	24.12.23	1.1.24	17.1.24	"	—
G. E. F—	M.	23.11.23	39	+40†	—	25.12.23	10.1.24	18.1.24	"	—
J. H. P.—	M.	20.11.23	43	—	+†	7.1.24	15.1.24	25.1.24	"	—
W. S—	M.	10.9.23	51	+40†	—	24.1.24	3.2.24	11.2.24	"	—
E. E—	M.	31.12.23	39	+40†	—	24.1.24	5.2.24	17.2.24	"	—
E. J. H—	M.	30.12.22	41	+40†	+40†	30.1.24	14.2.24	22.2.24	"	—
A. J. D. T.—	M.	11.1.24	30	+40†	+40†	30.1.24	14.2.24	25.2.24	"	Transferred to The Lawn Mental Hospital, 23.12.24.
S. G—	M.	18.5.23	38	+40†	+40†	30.1.24	15.4.24	14.4.24	"	—
F. M—	M.	26.1.24	55	+40†	+40†	14.2.24	24.2.24	6.3.24	"	—
F. M—(2)	M.	20.10.21	54	—	+8	11.7.23	25.7.23	13.8.23	Improved	—
M. C. F—	F.	13.12.22	51	+40	+40	12.9.23	6.10.23	12.10.23	Stationary	—
A. E. T—	F.	28.3.23	35	+40†	+40†	6.10.23	11.10.23	12.10.23	"	—

## GROUP C.

Case.	Sex.	Date of admission.	Age on inoculation.	W.R. on serum.	W.R. on C.S.F.	Date of inoculation.	Date of first rigor.	Date of quinine first given.	Date of death.	Remarks.
W. R. L—	M.	20.7.23	51	—	+20	12.8.23	28.8.23	—	13.9.23	Appeared to be doing well, then collapsed.
H. H—	M.	23.12.22	35	++	+++	23.9.23	8.10.23	—	12.10.23	Ditto.
E. S—	M.	13.10.23	51	—	+40†	16.11.23	27.11.23	10.12.23	11.12.23	"
R. A. M—	M.	26.3.23	43	+40†	+40†	16.11.23	2.12.23	12.12.23	17.1.25	No improvement.
F. W. T—	M.	15.6.23	38	—	+40†	18.12.23	29.12.23	14.1.24	20.3.24	—
T. F. D—	M.	18.12.23	32	+40†	—	5.1.24	18.1.24	31.1.24	28.2.24	—
H. W—	M.	10.9.23	40	+40†	+40†	22.12.23	27.1.24	21.2.24	1.11.24	—
J. H—	M.	22.8.23	45	+40†	—	7.1.24	23.1.24	1.2.24	1.2.24	—
A. G. F—	M.	9.1.24	48	+40†	+40†	23.1.24	7.2.24	11.2.24	24.4.24	—
A. V. P—	M.	17.1.24	36	—	+40†	25.2.24	5.3.24	14.3.24	30.10.24	—
A. G—	F.	8.8.22	45	+40†	—	23.10.23	30.10.23	9.11.23	21.12.24	—

## CONCLUSION.

From such a small number of cases it is impossible to consider any conclusions as final, but one is impressed by the successful issue of as many as 10 out of 36 (27·7 *per cent.*), especially as four of the men are earning their living, and all the women useful in their homes. The chief points gained from a consideration of these 36 cases are :

(1) That inoculation by malaria (*Plasmodium vivax*) at present seems a far more hopeful method of treatment than any other.

(2) The age of the patient does not seem to influence the result of the treatment.

(3) That a long-standing history of syphilis does not necessarily prejudice the result.

(4) The shorter the period of pathological mental change before treatment, the better the prognosis.

(5) The type or severity of the mental symptoms does not seem to affect the result.

(6) The neurological signs do not change after treatment, even if the patient recovers mentally.

(7) It is not necessary for the attack of malarial fever to be severe: a mild prolonged attack was effective in one case.

(8) The strain at Hanwell was controlled by quinine in constantly repeated small doses for two months, and no febrile relapses occurred.

(9) No difference could be detected in the course of the malaria whether inoculated by syringe or by mosquito bite.

The Hospital is very grateful to Lieut.-Col. S. P. James for his advice, and the interest he has displayed in the cases he supervised at Hanwell, and to the Director of the Pathological Laboratory, Maudsley Hospital, who supervised the Wassermann reaction tests.

These notes are published by permission of Dr. A. W. Daniel, the Medical Superintendent of the Hospital.

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*A Problem in Diagnosis.* By ALAN F. GRIMBLY, M.A., M.D.,  
D.P.M., Second Assistant Medical Officer, Severalls Mental  
Hospital, Colchester.

ON not too infrequent occasions one may encounter an instance of a disordered mind that baffles the combined efforts of the most astute diagnosticians, but the difficulties presented by the case described appear to be of unique rarity.