from June 26 onwards failed to demonstrate the presence of any form of spirochæte or granule, and so we assumed that a spontaneous cure of the fever had taken place.

I am unable to draw any definite conclusions from this form of fever therapy, as in this case, only a mild infection, characterized by one paroxysm and one relapse, took place with a spontaneous recovery. Since arm-to-arm inoculation with recurrent fever only fails in general paralytics, it is impossible to maintain the strain in this country.

I am extremely indebted to Dr. R. M. Clark, Medical Superintendent, for permission to publish this case.

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## *The Effect of Malarial Fever upon Dementia Præcox Subjects.*

By W. L. Templeton, M.B., Ch.B.Glas., Bristol (late A.M.O., City of London Mental Hospital, near Dartford).

It has long been known that remissions of varying degree and duration may occur in chronic mental states as a result of acute febrile intercurrent disease, and many attempts have been made to produce such an acute febrile reaction by artificial means, with a view to improving the mental condition thereby.

The underlying rationale of this method of treatment is not yet known. It has been held that it is the accompanying leucocytosis which is of consequence, and in support of this theory it has been stated that rarely, if ever, has improvement followed upon diseases such as typhoid, in which there is frequently not a leucocytosis but a leucopænia (1). It is doubtful if this statement is strictly correct.

Kauffman has put forward the suggestion that the improvement obtained by virtue of intercurrent disease is due simply to a quickening of oxidations and the removal of the waste products of metabolism, but the acceptance even of this view still leaves unsolved the factors involved.

It has been suggested that some of the methods employed are but examples of non-specific protein therapy (2), but this claim is resisted by the exponents of the methods referred to (3).

Most of the methods employed fall into the following classification: (i) chemical substances, *e.g.*, sodium nucleinate and allied substances, (ii) toxalbumins, *e.g.*, tuberculin, staphylococci, typhoid bacilli, etc., (iii) acute disease, *e.g.*, malaria (4).

Within recent years the beneficial results of malarial infection in the treatment of general paralysis (5) has focussed attention upon this method of producing fever in chronic mental conditions.

The fact that the malaria treatment of general paralysis was being carried out in the institution at the time led to its being tested upon

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the subjects of dementia præcox. It was considered that the empiricism which justified its use in general paralysis was quite as applicable to dementia præcox, particularly if one inclined to the toxæmic hypothesis of its ætiology. It was believed that even a negative result would be of value.

Under sodium nucleinate therapy many cases of dementia præcox are said to have recovered completely and others to have shown very decided improvement. It is to be noted that this method of treatment depends not on a rise of temperature (though this may be obtained), but apparently on the resulting neutrophile leucocytosis (6), which is the most prominent feature of the reaction.

Lundvall (7) in 18 cases obtained 4 recoveries and 9 improvements. Donath (8) of Budapest in 14 cases had 3 recoveries and 5 improvements. Schmidt (9) in 450 cases had a recovery-rate of 16·2 *per cent.*, and of recovery with defect 15·5 *per cent.*, *i.e.*, recovery in 31·7 *per cent.* Lepine (10) in 13 cases of dementia præcox had no success whatsoever, but in 13 cases of manic-depressive insanity obtained 8 cures and 2 improvements.

It is to be emphasized that in the case of malarial infection no leucocytosis, but a leucopænia is the rule. This has been confirmed in the cases noted.

In all 20 male cases were inoculated at intervals, and an average of 12 febrile reactions above 103° F. allowed, the actual number depending more or less upon the general condition of the patient.

As in the treatment of general paralysis patients were inoculated intravenously: 2–3 c.c. of blood were taken from the infected patient into a serum syringe previously lubricated with liquid paraffin to prevent clotting, and injected into the median basilic vein of the dementia præcox subject. After the first inoculation the infection was, of course, transferred from patient to patient.

It is to be noted that there was no cross-inoculation from syphilitic to dementia præcox patients.

The temperature rose as a rule the following day and ran a somewhat irregular course for a few days, when rigors commenced and the fever assumed its typical form. After a varying number of rigors—from six to eight usually—it was noted that daily rigors were the rule, due probably to the presence of two strains of parasites maturing at different times.

The fever was terminated by the administration of quinine sulphate gr. x for three doses, and gr. v daily for a week. In one case only did the malaria recur, and this was in a case to whom one dose only of gr. x was given as an experiment. His fever ceased for a week, when rigors recommenced, but vanished as rapidly under the routine dosage.

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No untoward results were experienced during the course of the fever. Epistaxis occurred in a few cases; vomiting in two only (in one case the temperature rose to 107°), and herpes febrilis in quite a number of cases.

Recovery from the profound anæmia was in most cases rapid, and patients seemed physically much improved in every way.

Most of the cases showed some degree of mental improvement even during the course of the fever. In a few there was no change whatsoever, and this is more particularly true of three patients belonging to the paranoidal group, in whom there was not the slightest deviation from their own particular normal mental state prior to inoculation.

The most striking change was seen in a brightening of intellectual interest, a desire to converse, to read the newspapers and books, and in some a complete return to normal as far as could be judged. Many began to write letters home, and these revealed a wonderful transformation of interest. Some who had previously refused to interview their relatives welcomed them and discussed past events in a more or less rational way. In some the change was more definitely shown, as, *e.g.*, in a former bank clerk, an example of catatonic dementia præcox, whose powers of calculation prior to inoculation were *nil*; towards the end of the febrile illness he was able to demonstrate both accuracy and speed in this direction.

In some this improvement was preceded by a period of extreme irritability, but in no case was there any extreme excitement even in those accustomed to periodical maniacal outbursts.

As soon as their physical condition warranted it, most of those who showed definite improvement were sent out on working parties of various sorts, and performed their duties in a more or less satisfactory manner. The majority of the patients referred to had previously been quite unemployable in spite of repeated attempts.

Various schemes of occupational therapy for making use of these patients were contemplated, but lack of staff and facilities led to their abandonment. Even now it is considered that had an intensive scheme of manual occupational therapy been possible many of those patients might not have lapsed so quickly as they did. Investigation has shown that the type of individual who seems predisposed to develop dementia præcox is very often untrained in the use of his hands, and the faculties which are involved in the acquirement of manual skill are accordingly undeveloped, and it was thought that training along those lines seemed likely to give more permanent results than the usual occupations assigned to the inmates of most institutions.

In the absence of such training the failure to maintain the improve-

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ment gained was not altogether surprising. At the end of two months there were few who had not materially lapsed, and it seems only a matter of time before all or most will have resumed their former mental state. A few who were previously subject to periodical attacks of excitement at fairly frequent intervals have remained free for a period of three months, and several others given to exhibitionism and filthy habits have remained remarkably well behaved for the same period.

In conclusion it must be confessed that the earlier results have but flattered to deceive, and it seems as if little or no permanent improvement can be expected from this line of treatment. One may be allowed, however, to argue that the fleeting results of this treatment in dementia præcox, as opposed to the seemingly permanent and progressive improvement obtained in general paralysis, may be regarded as indirect evidence against the parasitic nature of dementia præcox, and yet even here it must be considered how far the biological relationship between the *Plasmodion malariæ* (a protozoon) and the *Spirochæte pallida* explains the very successful results obtained in the malarial treatment of general paralysis.

The temporary improvement obtained in dementia præcox is paralleled by a case of non-progressive general paralysis treated by the same method. This patient on admission in 1916 was a typical example of general paralysis with all the physical signs well marked, and in whom the Wassermann reaction of c.s.f. and blood was positive. Since admission this patient gradually quietened down, and is now garrulous, somewhat irritable, but not demented. Prior to inoculation with malaria the Wassermann reaction in both blood and cerebro-spinal fluid was found to be negative. Under this treatment he improved in very much the same way as the dementia præcox patients already described, became more agreeable, displayed a keener interest in affairs, interviewed his relatives amicably, but in contrast to the more active and recent cases of general paralysis he completely lapsed within a few weeks.

I am indebted to Dr. R. H. Steen for permission to report on the cases, and to Lieut.-Col. E. Goodall for most of the references.

## References.

(1) Fischer.—*Lancet*, September 2, 1922.
(2) Goodall.—*Ibid.*, July 21, 1923.
(3) Fischer.—*Medizinische Klinik*, 1922, No. 19.
(4) Pilcz.—*Lancet*, January 6, 1923.
(5) Gerstman.—*Zeitschr. f. d. ges. Neurol. u. Psychiat.*, lxxiv, 1922; lxxxi, 1923.
(6) Goodall.—As in (2).

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(7) Lundvall.—*Blutveränderungen bei dementia præcox*, Kristiania, 1912.
(8) Donath.—Quoted by Goodall, " Croonian Lectures," 1914.
(9) Schmidt.—*Zeitschr. f. d. ges. Neurol. u. Psychiat.*, 1912, Bd. vi.
(10) Lepine.—*La Presse Medicale*, 1910, No. 9.

## Medico-Legal Notes.

### ABSTRACT OF THE REPORT OF THE LORD CHANCELLOR'S COMMITTEE ON INSANITY AND CRIME.

[Dated November 1, 1923.][1]

THIS Committee was constituted in July, 1922, by the Lord Chancellor, The Earl of Birkenhead, " to consider and report upon what changes, if any, are desirable in the existing law, practice and procedure relating to criminal trials in which the plea of insanity as a defence is raised, and whether any and, if so, what changes should be made in the existing law and practice in respect of cases falling within the provisions of Section 2, sub-section (4) of the Criminal Lunatics Act, 1884."

The Committee consisted of the Right Honourable Lord Justice Atkin (Chairman), The Right Honourable Sir Ernest Pollock, *K.B.E.*, *K.C.*, *M.P.*, Sir Leslie Scott, *K.C.*, *M.P.*, Sir Herbert Stephen, Bart., Sir Richard Muir, Sir Archibald Bodkin, Sir Edward Troup, *K.C.B.*, *K.C.V.O.*, Sir Ernley Blackwell, *K.C.B.*, and Sir Edward Marshall Hall, *K.C.*

The reference in these terms naturally attracted the attention of the medical profession. Representative committees were established by The Council of the British Medical Association and by the Medico-Psychological Association, who submitted reports to this Committee and supported the reports by evidence. The report of the Council of the British Medical Association has also the authority of the Central Association for Mental Welfare, members of which body were associated with the Sub-Committee of the British Medical Association who dealt with this matter (*vide* April No., 1923, pp. 209–19).

Both Associations tendered evidence before us; we heard evidence of eminent professional men in support of the views of the respective Associations, including two members of the Board of Control, Dr. Bond and Mr. Trevor, who supported the report of the Medico-Psychological Association. We have thus had unequalled opportunities of becoming acquainted with the considered opinions of the

[1] His Majesty's Stationery Office, price 6*d*.

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