

re-established after obliteration (checked several times). Occasional sharp rises due to the excitement of the operation can be easily detected, as the pressure continues to fall during the operation—each check reading being lower than the previous.

Conclusions.

1. The blood-pressure may shed valuable light on difficult cases.
2. It may give a useful indication for treatment.
3. It may be, in certain cases, an accurate guide to the progress of the patient under treatment.

My thanks are due to the Superintendent of the Hospital for permission to make use of these records.

*The Treatment of General Paralysis.** By C. B. BAMFORD, M.D.

DURING the year 1927, 60 cases of this disease were admitted to Rainhill Mental Hospital. In an attempt to gain improved results treatment was carried out in a more intensive and systematic form than has ever been the practice in this hospital. Malarial therapy was persevered with, but in most cases was modified by the exhibition of tryparsamide.

It was originally intended to precede the malarial infection by a course of tryparsamide given intravenously at weekly intervals. This plan has been carried out, with certain exceptions due to the necessity of maintaining the malarial strain in the hospital.

The effects of this modification of the usual method of treatment have been carefully observed.

Fourteen of these 60 cases were considered to be too far advanced to benefit by treatment, while 10 of the remaining 46 were also admitted in an advanced state and were treated at the request of their relatives, but, as we expected, with very little benefit.

From the point of view of improvement following treatment, the remaining 36 cases have been classified as follows:

Group 1, comprising 13 cases, all of which have been discharged. These cases are considered as having mentally recovered and physically improved—sufficient to warrant their return to outside life.

In this group, 2 of the cases had malaria only and 1 tryparsamide only, but the remaining 10 cases had the combined courses of malaria and tryparsamide.

Group 2, comprising 13 cases. These are considered as showing partial mental recovery with considerable physical improvement.

* Abstract of a paper read at a Divisional Clinical Meeting held at Rainhill Mental Hospital, May 2, 1928.

It is quite likely that a number of these will continue to improve and come to be classified in Group 1. The rest have lost all their acute mental symptoms and we now consider them as stationary from the point of view of their mental condition. The majority are very well conducted and have developed into useful members of the hospital community.

In this group 2 cases have had tryparsamide only, but the remainder (11 cases) have undergone the combined course of treatment.

Group 3, comprising 5 cases. All these have shown some degree of physical improvement, but little, if any, mental improvement. All except one of the cases have had a combined course of treatment.

Group 4, comprising 5 cases, all of which are showing progressive mental and physical deterioration. Generally, treatment in these cases evoked such an unsatisfactory response that it was not fully pursued.

CONCLUSIONS.

It may be said that the results are the best yet obtained at this mental hospital.

It will be seen that out of the 46 treated cases 25% have been discharged already, and that this figure will probably be increased in the near future. Moreover, in another 30% of the cases distinct improvement has been effected, whilst of all the cases treated, less than 12% have failed to improve. To record such figures as the above represents a distinct advance in the treatment of this disease.

1. It is essential to have the clinical diagnosis of general paralysis confirmed by full serological examination. This we emphasize, because (a) the mental symptomatology of general paralysis is so varied, and (b) the early case will frequently be missed if reliance for a diagnosis is placed solely upon classical symptoms and physical signs. The outcome of this conclusion has been the adoption of routine examination of the blood and cerebro-spinal fluid of all newly admitted cases in this hospital.

2. If such investigation is carried out early, general paralysis can no longer be looked upon as hopeless, because intensive treatment does effect immediate improvement.

3. Treatment should consist of one full course of tryparsamide (ten weekly injections of 3 grm. each), followed by a series of malarial rigors—12 if possible. We believe this sequence is better than the reverse order, *i.e.*, malaria followed by tryparsamide, for the following reasons :

(a) Loss of weight is a prominent early symptom of general paralysis, and this can be effectively counteracted by immediate

administration of tryparsamide. In our experience, every case that is going to benefit will show pronounced physical improvement under the influence of this drug, thus effectively enabling the patient to undergo a full course of malaria.

(b) Further, it has been repeatedly demonstrated to us that when malarial treatment is given prior to tryparsamide it is not devoid of danger from physical collapse, frequently demanding curtailment of the full course.

(c) Thus, to obtain the maximum therapeutic benefit from malarial pyrexia, tryparsamide acting as an anti-syphilitic tonic and alterative factor should first of all be given.

(d) Moreover, where only one therapeutic factor is available, tryparsamide appears capable of producing quite a good immediate improvement in the mental symptoms without the accompanying physical prostration attendant upon a course of induced malaria. The drug often appears to act as a sedative in the maniacal type of case, gradually allaying mental excitement and motor restlessness.

In this hospital it is now accepted as routine to administer firstly a full course of tryparsamide, to be followed by malaria.

4. *Serological conclusions.*—(a) The gold-curve is little, if at all, affected by therapeutic measures. We are of opinion that this test, being the most stable, is of primary diagnostic importance. Other tests we look upon as confirmatory, this as diagnostic.

(b) All cases which improve clinically with treatment have shown corresponding serological improvement, but the converse has not been established.

(c) Changes in the cerebro-spinal fluid have followed much more consistently upon the administration of tryparsamide than upon that of malaria. In other words this investigation demonstrates that, serologically, tryparsamide is a more potent therapeutic agent than malaria.
