

without effect, and this fact explains why the therapeutic value of strychnine in these cases has so far remained unknown. But this minimal dose of 5 cgrm. is not sufficient to ensure success. It is necessary to go far beyond it, to push the drug to the extreme limits of tolerance—up to between 7 and 8 cgrm., *i.e.*, until saturation of the nervous system occurs. At this point a state of subacute strychnism is established, with muscular hypertonia, as evidenced by contracture and exaggerated reflexes, the influence of which on the evolution of the malady is decisive. By the powerful super-excitation which it involves, this drug reaction creates a kind of organic crisis which acts as a shock to the patient, stimulates his nutrition, awakens his sensibility, revives his physical and intellectual activity, rids him of his inertia and torpor so that he again becomes fitted for a normal life.

This intensive treatment is realised by progressive and repeated doses. Tolerance for the drug is such that the author found it possible to increase daily each dose by $\frac{1}{2}$ mgrm. Moreover he found that elimination took place in about five hours.

The actual method of procedure is as follows: using a 100 *per cent.* solution of sulphate of strychnine, the treatment on the first day consists in administering either by mouth, or, if the patient refuses, by injection, 7 drops, or $3\frac{1}{2}$ mgrm., repeated three times at intervals of at least five hours, *i.e.*, about 1 cgrm., or 21 drops in twenty four hours. On each succeeding day each dose is increased by a drop or $\frac{1}{2}$ mgrm. If, after a few days, symptoms of strychnism—vertigo, giddiness, stiffness of the legs or of the jaws—should supervene, the patient is kept on the same dose until that reaction disappears. Then again it is increased by a drop daily, and so on. The time arrives, however, when tolerance is no longer exhibited—the same dose invariably producing a reaction. This indicates that the point of saturation is reached beyond which one cannot proceed.

The cure progresses in proportion as the drug is increased. Until 5 cgrm. is reached, *i.e.*, for about the first month, amelioration is *nil* or insignificant; on the contrary, once beyond that dose, progress becomes rapid. It is found that the patient wakes up, revives, speaks, begins to interest himself, occupies himself, smiles. At the stage of saturation the normal state is generally regained. It only remains to decrease the drug more or less rapidly by three times three drops each day until the initial dose is regained, when it may be discontinued without risk of a relapse.

A brief *résumé* is given of the six cases treated by this method.

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Is the Treatment of Patients with General Paralysis Worth While?
(*Journ. Nerv. and Ment. Dis.*, October, 1921.) Solomon, H. C.

Pathologically general paralysis is a degeneration of the parenchyma of the central nervous system. As to the efficacy of treatment there is a great diversity of opinion. Diagnosis is very difficult as between dementia paralytica and cerebrospinal syphilis—cases put in either category may prove to be the other. Essential to the diagnosis is more or less insidious deterioration of the personality of the individual with the neurological symptoms, especially facial tremor and speech defect;

and also positive laboratory findings, *viz.*, Wassermann plus with 0.2 c.c. of spinal fluid, paretic gold curve, globulin, excess albumen and cell count near 100.

Solomon believes that thorough treatment of general paralysis results in prolonged remissions of two to six years with restoration to good economic ability and efficiency. In 1916, of the cases treated 25 *per cent.* were discharged on remissions. Age does not seem a criterion—cases *æt.* 65 have done well, but one cannot be dogmatic in prognosis. A young man with good heart and kidneys may do badly, probably from loss of immunity from a virulent infection.

The methods used were injections of arsphenamin 0.6 gm. intravenously twice a week for three to four months, but intensive continuance is essential. The author feels that he has been over-conservative in limiting the doses to .6, .8 and 1.0 gm.; larger doses do not appear to approach the tolerance of the patient, and at the worst excessive dosage would but shorten a life which *per se* would extend a few months at most.

In combination with this method is used the intraspinal route, and the intraventricular (cistern puncture) route of Ayer. In inflammatory conditions of brain or cord the latter method revolutionises treatment; and when used in conjunction with the other routes, it necessitates a revision of our ideas of prognosis. Spinal drainage is also advisable in some cases.

Ruggles confirms this view of Ayer's intra-cistern method, and in his hands a series of fifty cases have revealed a lessened reaction, ready co-operation on the part of the patients, and absence of bad results. Where intravenous treatment plus spinal drainage, or intravenous plus intraspinal injections fail, the intracistern route should be adopted.

In the absence of these treatments the patients concerned would, it is believed, either be dead, or be still in institutions.

JOHN GIFFORD.

6. Mental Hygiene.

Childhood: The Golden Period for Mental Hygiene. (*Ment. Hygiene*, April, 1920.) White, W. A.

Mental illness is a type of reaction of the individual to his problems of adjustment which is conditioned by (1) the nature of those problems, and (2) the character equipment with which they are met.

As regards the first of these factors, the general statement may be made that if the stress of adjustment be sufficiently great any individual may break down. The second factor, the character equipment, is the important one for consideration. It may be enforced by mental hygiene. Mental illnesses depend upon defects in the personality make-up, and this latter is what it is as a result of its development from infancy onward. Mental illnesses are the outward and evident signs of intrapsychic difficulties (conflicts). Conflicts depend upon traits of character originating in childhood. The peculiar trait of character with which the individual has been struggling all his life—suspicion, cruelty, jealousy, timidity, curiosity, over-consciousness, etc.—is conditioned early in life as a result of the influences exerted by the members of the