puddings, tea, thin bread and butter without crust may be given. I often give porridge and have found it do no harm. It tends to keep the bowels open. Vegetables I do not find so obnoxious as some of the continental writers say. The undigested vegetable fibre may act as a mild scrubbing-brush to the dirty mucous membrane. Stimulants are not often required. In certain cases there is a tendency to collapse, the cardiac action is feeble and there is a feeling cold; in these alcohol is good. In some cases whisky helps to keep the bowels open.

I have tried lactic acid therapeutically and the patients did well on it. I have also tried junket and whey with good results. We have used plasmon in some debilitated cases and they improved on it.

Disinfection.—Of course this must be thorough. We use kerol here as a rule.

Our hope for the future must be in the sera and vaccines, and money spent on these will in time return good interest.

(1) A paper read at the Northern and Midland Divisional Meeting at Nottingham, April 27th, 1911.

Syphilis and Congenital Mental Defect. (1) By C. G. A. CHISLETT, M.B., Ch.B.Glas., Assistant Medical Officer, Woodilee, Lenzie.

WITH the exception of cretinism, mongolism and amaurotic idiocy, and juvenile general paralysis, it may be said that the only classification of congenital mental deficiency is one based on the degree of mental defect.

"Idiocy," "imbecility," and "mental debility" are terms employed to distinguish somewhat arbitrary classes of varying grades of mental deficiency, but these terms have no ætiological significance. Even the neurological distinctions based on the varieties of motor affection in idiots and imbeciles with cerebral palsy do not offer a satisfactory basis for a scientific classification of such cases.

A classification or interpretation on anatomical grounds must also, in many cases, prove unsatisfactory, inasmuch as after death, the condition found can in many cases only

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represent the remains of the processes originally responsible for the disease: for example, in two cases of general paralysis described by Alzheimer, in addition to the anatomical changes characteristic of the paralysis, there were also small nodules present in the brain, representing areas of retarded development. These areas, from site and extent, seemed to be due to an earlier disease of the blood-vessels, which was undoubtedly syphilitic in origin; but the lesion at the time of death was so old as to render its character impossible of recognition had a general paralysis not suggested the specific origin of the condition.

Thus the part played by syphilis as a factor in congenital mental disease has, until recently, been estimated only by anatomical and clinical evidence. It is a remarkable fact that the evidence adduced by anatomy on the whole has scarcely confirmed the clinical conclusions: that is to say, the number of cases in which the nervous system is affected in children who die in the first weeks of life is small compared with the percentage of those whose nervous systems show in the first year of life evidence of deficiency attributable to syphilis in the parents. This apparent discrepancy, however, finds its explanation in the fact that those children who die early die as the result of a very acute affection, whereas the nervous symptoms would appear to be the result of a more chronic infection. For example, Dr. Manson has examined in the Western Asylums Research Institute six cases of congenital syphilis, two of which were premature births, and the others died in the first few days or weeks after birth, and in none of these cases was the nervous system affected. On the contrary, in every case advanced degenerative changes of the lungs or liver, or both, were found, and in every case spirochætes were easily demonstrable. On the other hand, a clinical investigation of 230 cases of idiocy by Heubner showed that about a fourth of these were the children of syphilitic parents.

It must, however, be recognised that syphilis as an ætiological factor has been held responsible for the most varied forms of mental and nervous disease. For example, in the case of Little's disease, the symptoms were referred by Little himself to meningeal hæmorrhage incidental to accidents during labour. It has, however, been demonstrated that such

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hæmorrhages have, in many cases, a syphilitic basis; the *rôle* of syphilis in this disease is now generally admitted; and in the case of allied conditions of cerebral paralysis in children, among the various ætiological factors syphilis occupies a place of primary importance. It is obvious, also, that so far as anatomical processes are concerned, the manifestation of changes in the young must differ widely from those in the adult. In the adult, the syphilitic processes are of the nature of gummatous infiltrations, endarteritis, meningitis, or meningo-encephalitis. In the young, growing, and plastic brain, there is always, in addition to the destruction of developed elements, an interference with, or obstruction to, the process of development.

The part played by syphilis in cases where the nervous disturbance is purely psychical is, at present, difficult to determine, and this field of research can only be explored by the application of the biological test. In the same way, those cases which are due to syphilis as a predisposing factor which has reduced the resistance of certain nerve-tracts are still somewhat indefinite; this hypothesis, and the extent of the influence of syphilis in such cases as the hereditary ataxies and muscular dystrophies, are largely matters of clinical impression and speculation. Whether syphilis is responsible to a recognisable extent for mental enfeeblement and retarded development, without obvious evidence of mental disease, is a problem which can only be solved by the widest application of the biological test to parents and to families of recognised syphilitics.

An examination of the material in Woodilee Mental Hospital which has a bearing on the subject has shown some interesting results. (In the experiments the original Wassermann method was employed, and in the majority of the tests controls were made by the lecithin-cholesterin method of Browning, Cruickshank, and Mackenzie. With regard to the significance of the reaction, it may be stated that a positive result may mean either that the specific syphilitic process is still in being, or that, as suggested by Browning and Mackenzie, the metabolic changes characteristic of syphilis have been revived out of abeyance by some intercurrent malady.) That mental disease can occur, however, without the presence of a Wassermann reaction in cases which have previously suffered from syphilis

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has been proved by the examination of three recent cases: A case of suicidal depression had marked evidence of a severe syphilis contracted eight years previously, but had a negative Wassermann reaction. A case of severe toxic stupor had a history of syphilis, and showed syphilitic aortitis at *post-mortem* examination, and had a negative Wassermann reaction. A case of dementia præcox had a history of syphilis, and showed syphilitic scars, but had a negative Wassermann reaction.

The cases examined were all mentally defective from birth. A few presented signs of congenital syphilis, but, in the majority, these signs were absent. A few were the subject of epileptic fits, and some were paralysed. Those cases that presented signs of congenital syphilis all gave a positive Wassermann reaction. Family histories were not taken into account, as in the majority of cases they could not be obtained.

Idiots and Imbeciles.

CASE 1.—B. R—, male, æt. 28. Is dull, listless, and stupid. Shows physical stigmata of degeneration. Is stunted in growth. Head is large and markedly asymmetrical, showing frontal bosses. Upper incisor teeth are absent. Palate is high and narrow. Eyes show blepharitis. Internal strabismus in right eye. Positive reaction.

CASE 2.—J. D—, male, æt. 15. Is quite idiotic in manner and appearance. Is poorly developed. Has well-marked frontal bosses and a flat, ill-developed bridge to nose. Has right external strabismus. Enlarged glands in anterior cervical region. Positive reaction.

CASE 3.—S. V—, female, æt. 10. Mother was an epileptic. Is fairly well developed. Has internal strabismus of right eye. Negative reaction.

CASE 4.—E. M—, female, æt. 19. Has never exhibited any intelligence, and cannot take care of herself. Is poorly developed. Stereotyped movements. Has frontal bosses. Teeth are pegged. Palate is broad and flat. Has broad, ill-developed bridge to nose. Positive reaction.

CASE 5.—J. McL—, æt. 16. Imbecile. Is fairly well developed, and well nourished. Several scars are present on face, but probably from falls. Right pupil is the larger. Internal

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strabismus. There is marked bony deformity of chest. Positive reaction.

CASE 6.—H. M—, æt. 17. Imbecile from birth. Three brothers died in childhood, causes unknown, at twenty-four hours after birth, nine months, and two-and-a-half years respectively. Has frontal bosses, broad, flat nose and scars at angle of mouth. Hutchinson's teeth are present. Is stunted in growth. Positive reaction.

CASE 7.—M. A—, æt. 22. Is a higher grade imbecile. Has tubercular glands in neck. Negative reaction.

CASE 8.—R. W—, æt. 25. Hair is rough and dry. Is well nourished, but stunted in growth. Has well-marked genu valgum. Has frontal bosses. Blepharitis of both eyes. Nose is flattened. Slight scar at one angle of mouth, but not radiating. Has high palate with central ridge. Positive reaction.

CASE 9.—W. T—, æt. 32. Is a deaf-mute. One sister died in infancy. One cousin is deaf, another is blind. Has broad, flat cranium, but occipital region is raised from the general contour. Incisor teeth are lost. No signs of congenital syphilis. Positive reaction.

CASE 10.—J. L—, male, æt. 18. Has been mentally defective from birth. Is small and stunted in growth and shows stigmata of degeneration. Strabismus of right eye. External genitals are rudimentary. Positive reaction.

CASE 11.—B. S—, female, æt. 19. Mentally defective from birth. Is a large, stoutly built girl, with no deformities. Negative reaction.

CASE 12.—M. B—, æt. 14. Is small and stunted in growth and shows deformity of lower limbs. There are no signs of congenital syphilis. Negative reaction.

CASE 13.—M. H—, age uncertain. Shows numerous stigmata of degeneration. Negative reaction.

CASE 14.—G. W—, age uncertain. Has never shown any intelligence and cannot attend to her simplest wants. Has marked bony deformities. Negative reaction.

Juvenile General Paralysis (2).

CASE 15.—M. B—, female, æt. 8. Has illness extending over three months. This child had been at school, and was

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considered by her mother to be ordinarily intelligent. No history of syphilis in family, although the father was a habitual drunkard and a social wastrel. On examination, the child was found to be well nourished and developed; her mother said that during the previous three months she had grown very stout. The pupils reacted sluggishly to light. The knee-jerks were absent. There was a fine tremor of the lips, and difficulty in pronunciation. She was very emotional, and wept on the slightest provocation. She was dirty in her habits. Both the blood and the cerebro-spinal fluid gave a positive reaction.

CASE 16.—A. C—, female, æt. 13. She was quite healthy, according to her mother's story, until six months before coming into hospital. She had, however, in that period lost interest in her work. She became deaf in one ear, and developed a keratitis in one eye. She was, on examination, found to be depressed, although there was said to be at times emotional disturbance. The pupils reacted sluggishly to light, and the knee-jerk was absent on one side. Two members of the family died in infancy from unknown causes, and there were two premature births. There was no other evidence suggestive of syphilis in the family. In this case both the blood and cerebro-spinal fluid gave a positive reaction.

Epileptic Idiots (3, 1 positive).

CASE 17.—M. G—, female, æt. 23. Has been mentally defective from birth and is the subject of epilepsy. She is dumb. Has marked bony deformities of lower limbs. Negative reaction.

CASE 18.—J. S—, female, æt. 15. Has been mentally defective from birth and is the subject of epilepsy. The incisor teeth are pegged. Palate is high and narrow. Nose is broad and flat. Knee-jerks are exaggerated. Positive reaction.

CASE 19.—R. E—, æt. 20. Epileptic idiot. Has numerous stigmata of degeneration. Spastic gait. Negative reaction.

Paralytic Idiots (3, all negative).

CASE 20.—L. M—, age unknown. Has never shown any

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intelligence, and is paralysed in both lower limbs. Negative reaction.

CASE 21.—A. P—, æt. 27. Is an idiot who is subject to fits of violence. Both lower limbs are paralysed. Has choreic movement of the upper limbs. Negative reaction.

CASE 22.—C. L—, æt. 8. Has never exhibited any intelligence. Is sickly looking and poorly developed, and is paralysed in both lower limbs. Has an internal strabismus of right eye. Negative reaction.

Examination of Family.

A whole family, the father of which suffered from general paralysis, was examined. The father acknowledged syphilis, and his serum gave a positive reaction. The mother, to her knowledge, had never had the symptoms of primary or secondary syphilis, but eight years after marriage had a tertiary ulcer on the left leg. There were ten pregnancies; two children were prematurely born, and two died in infancy. The blood-sera of the remaining six were examined

The eldest, a boy of sixteen, was described by his mother as very nervous and stupid as a schoolboy; his serum reacted positively, although he showed no signs of syphilis; a girl of twelve was deaf in one ear, but otherwise normal; her serum was also positive. A girl of ten had a negative serum; a boy of eight, with rhinitis and conjunctivitis, had a positive reaction; and the two youngest children, of six and four respectively, had negative sera.

The interesting fact emerges that children who suffer from mental diseases of congenital origin, but show no other sign of syphilis, may show a positive reaction; and children whose parents are syphilitic may have a positive reaction, although at the time of examination they may appear to be in ordinary health, and show no signs of previous disease.

The significance of the results which have been detailed is that syphilis plays a larger part in congenital mental affection than is generally supposed. It is important, both for the classification of mental diseases and for the elucidation of the ætiological bases of such maladies, that the serum reaction should be determined over a large series of cases. It would appear that the terms "racial degeneration" or "stigmata

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of degeneration" when applied to cases of congenital mental disease may convey a false impression, especially when such cases are of syphilitic origin, and are due to specific infection of the individual. Congenital syphilis outside the nervous system produces degeneration only in the sense that an infection leads to destruction of structural elements. In the same way, it is not too much to say that nervous disease associated with congenital syphilis is the expression of anatomical changes that are due to an intra-uterine infection with the *Spirochæta pallida.* The changes which such degeneration produces in a primarily plastic brain are likely to be permanent and hopeless from the point of view of individual therapy. If medical science is prepared to urge prophylactic measures for the prevention of such diseases, it is well that it should be definitely established and recognised that a considerable proportion of cases of congenital mental deficiency is infectious in origin, and that the infection is syphilis.

(1) Paper read at the meeting of the Scottish Division at Glasgow, March 17th, 1911.

The Treatment of Puerperal Insanity with Anti-streptococcic Serum.(1)

By NATHAN RAW, M.D., M.R.C.P.Lond., Physician, Mill Road Infirmary, Liverpool.

A CASE of puerperal insanity, although distressing in its symptoms, is always welcomed by the asylum physician, for the reason that he knows in all probability the patient will make a good recovery.

On the other hand, a case of puerperal septicæmia is dreaded by the practitioner, not only because it is a reflection on the part of someone in attendance on the woman, but on account of the unfavourable prognosis of the case.

It is very uncommon to find a true case of puerperal septicæmia associated with an acute form of puerperal insanity, and I have made observations during the last six years and find that out of thirty-one cases of puerperal septicæmia only three of them presented mental symptoms requiring certification. It is quite true that in many cases of septicæmia the patient suffers from insomnia and restlessness with occasional

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