

correspondence between venous pressures as determined in the superficial brachial vein and in the superior sagittal sinus seems demonstrated; the exact levels of the two pressures are modified by the local conditions of their situation.

R. M. S.

### NEUROPATHOLOGY.

- [105] On the pathogenesis and treatment of tabes dorsalis and general paralysis.—L. B. ALFORD. *Amer. Jour. Syph.*, 1922, vi, 410.

THIS short paper purports to be "a discussion of the pathogenesis of tabes dorsalis and general paralysis with a view to the bearing on treatment." The subject is one which deserves much fuller treatment than is possible in the six pages devoted to it by the writer. In fact, no fair summary could be made of the various theories extant for the origin of either disease alone in a paper of this length. As it is, we are given only one theory of the pathogenesis of tabes, that of Obersteiner and Redlich, and this is but lightly touched on. In connection with this we are told that the nerve roots lose their "neurilemmal or connective-tissue sheath" on piercing the pia mater. This is quite true; but it is also true that they lose their neurolemmal sheath or sheath of Schwann at or near the same situation, and it is on the latter point that Orr and Rows and other writers lay stress.

With regard to general paralysis, we are told that the spirochaetes "are certainly not co-extensive with the distribution, or in proportion to the severity, of the anatomical changes". In support of this the writer quotes a case which both in its serological and histological aspects resembles cerebral vascular syphilis much more closely than general paralysis.

The vexed question of the relation of the cerebrospinal fluid to the nerve centres is dismissed in a few lines. The writer mentions the work of Mott on this subject, but does not state the means whereby he succeeded in making coloured solutions pass from the subarachnoid space into the tissues of the cerebral cortex. He adds "that others believe that experiment alters relations, and that normally the flow is in the opposite direction".

The relation of these theories to the treatment of neurosyphilis is dismissed in the same brief manner. We do not agree with the writer that present methods "aim too much at the destruction of the parasite", although we cordially endorse his view that they give results far short of the ideal. But syphilologists cannot improve their technique in the treatment of neurosyphilis without a knowledge of the main facts and theories concerning the pathogenesis of the disease, and we cannot think that this paper supplies the deficiency.

J. G. GREENFIELD.

- [106] The excretion of *Spirochæta pallida* through the kidneys.—A. S. WARTHIN. *Jour. of Infect. Dis.*, 1922, xxx, 569.

AN important paper in which Warthin demonstrates that the elimination of the organism of syphilis may take place under the same conditions, and apparently with the same mechanism, as described for the spirochaeturia of infectious jaundice. In three cases of congenital syphilis studied—one of a child dying at birth, another dying eight days after birth, and the

third at three and a half years of age—the kidneys presented an unusual degree of spirochæte localization with definite lesions. In two cases of acquired syphilis—those of a young man with a roseolar eruption and a young woman with maculo-papular eruption, both dying from arsphenamine poisoning—a similar localization of spirochætes in the kidneys, with positive evidence of excretion through the renal epithelium into the tubules, was observed. There is a more or less generalized spirochætosis in the body, with spirochætæmia. In the kidney there occurs a massing of the spirochætes about the convoluted tubules, and a passage of the organisms from the vessels and interstitial tissues into the tubules, where they undergo disintegration for the greater part. This destruction of the organisms in the kidneys is more marked in the case of syphilis than in infectious jaundice. According to Warthin, the elimination of spirochætes through the kidneys, with the production of associated renal lesions, appears to constitute a family characteristic for the entire group of spirochætal infections, so far as the known types of the organisms have been studied carefully. *Spirochæta pallida*, as is *Sp. icterohæmorrhagica*, may be excreted in enormous numbers through the convoluted tubules. During such excretion through the kidneys, Warthin concludes, the spirochæte of syphilis suffers greater destruction than does the icterogenic parasite, so that fewer spirochætes may reach the urine in syphilis than in infectious jaundice. The demonstration of the occurrence of syphilitic spirochæturia, therefore, is not likely to possess such diagnostic value as that of icterogenic spirochæturia.

R. M. S.

[107] **The staining of spirochætes in cover-glass smears by the silver-agar method.**—A. S. WARTHIN and A. C. STARRY. *Jour. of Infect. Dis.*, 1922, xxx, 592.

THE authors state that the dark-field and Indian-ink methods for the demonstration of spirochætes are dangerous for the inexperienced laboratory worker, and believe that fine morphological differences are more easily recognizable in the stained smear; they regard the use of the latter as the safest procedure in the clinical recognition of syphilis. Their method of applying silver impregnation to the study of spirochætes in smears is as follows: (1) Prepare smears on No. 1 cover-glasses. (2) Dry thoroughly in the air. (3) Place in absolute alcohol three to five minutes. (4) Wash in two changes of distilled water. (5) Rinse cover-glass with smear in 2 per cent silver nitrate. Cover the smear side with another perfectly clean cover-glass also rinsed in the silver nitrate solution. Place the adherent pair of cover-glasses carefully, so as not to separate them, in a bottle of 2 per cent silver nitrate, and place in an incubator for one to two hours; then remove the cover-glasses and separate them. In heavy smears with much serum or cell material it is of great advantage to use hydrogen peroxide to clear up the background. Between steps 4 and 5 the cover-glass is placed in concentrated hydrogen peroxide for five to twenty minutes. It is then washed in two changes of distilled water before proceeding with step 5. (6) Place the cover-glass with the smeared side up in the following mixture: 2 per cent silver nitrate solution, 3 c.c.; warm

10 per cent aqueous gelatin solution, 5 c.c.; warm glycerol, 5 c.c.; warm 1.5 per cent agar suspension, 5 c.c.; 5 per cent aqueous hydroquinone solution, 2 c.c. In preparing the reducing mixture the agar suspension is added after mixing the silver nitrate, gelatin, and glycerol, and the hydroquinone stirred in just before using. (7) After the solution is reduced, and the smears have turned a light brown, remove and rinse in 5 per cent sodium thiosulphate solution. (8) Rinse in distilled water. (9) Absolute alcohol, xylol, balsam.

R. M. S.

### VEGETATIVE NEUROLOGY AND ENDOCRINOLOGY.

- [108] **Scleroderma—a disease of the vegetative nervous system** (Die Sclerodermie—eine Erkrankung des vegetativen Nervensystems).—GOERING. *Deut. Zeits. f. Nervenh.*, 1922, lxxv, 53.

THIS is a short and interesting paper, accompanied by a good bibliography. The author brings together briefly the evidence in favour of the theory that scleroderma is of nervous origin, and that the particular part of the nervous system involved is the sympathetic. She says that the first suggestion that sclerodermal changes might be due to nervous disturbance arose from their limitation in occasional cases to the area supplied by a particular peripheral nerve, and she refers to thirty such cases. Many cases of the limitation of the changes to the distribution of a particular spinal root or segment, she states, are on record. Cases in which the distribution is symmetrical, and the rare cases in which the whole of one side of the body is affected, support the theory. Furthermore, scleroderma has sometimes been found in association with undoubted nervous diseases—e.g., herpes zoster, myelitis, syringomyelia—a rather slender argument in favour of its nervous origin.

From the facts that sensory changes are not present in scleroderma, and that section of a peripheral nerve does not cause scleroderma, the author argues that the changes must be produced as a result of irritation of nervous elements rather than of their destruction.

The arguments in favour of the sympathetic being the part of the nervous system involved are many and various: the absence of motor or sensory disturbances; the association, in reported cases, of abnormal pigmentation, of changes in the nails and bones, and of vasomotor and secretory disturbances, are mentioned; but most important is the consideration of the tissues involved in the changes, viz., skin, fat, interstitial tissue, bones, joints, over all of which, the author has reason to believe, the sympathetic exerts a trophic influence.

J. P. MARTIN.

### SENSORIMOTOR NEUROLOGY.

- [109] **Epidemic encephalitis** (Ueber Encephalitis epidemica auf Grund der Erfahrungen der 1920'er Epidemie).—VON SARBO. *Deut. Zeits. f. Nervenh.*, 1922, lxxiv, 285.

AMONG 25 cases of encephalitis epidemica, Sarbo had 7 in which the onset was purely lethargic, 6 lethargic with psychic disturbances, and 4 lethargic