NEUROPATHOLOGY


An improved colorimetric method is described for the determination of the bromide content of body fluids, requiring 2 c.c. of the fluid. It is suggested that this method may be of use in ascertaining rapidly whether a confused or delirious state is due to bromide intoxication or not.

C. S. R.

[50] Müller's reaction in the cerebrospinal fluid (La reazione di Müller nel liquido cerebro-spinale).—N. SACCHETTI. Riv. di pat. nerv. e ment., 1932, 40, 94.

Müller's reaction is a flocculation reaction, and this was compared with the Wassermann reaction in 194 patients suffering partly from neurosyphilis or late syphilis, partly from non-syphilitic nervous or mental diseases, and partly healthy. The author claims a greater sensitivity for Müller's reaction, getting positives in certain meningitic cases which gave negative Wassermann reactions, and finding that cases treated with malaria retained a positive Müller's reaction longer than the Wassermann reaction. On the other hand, he does not consider Müller's reaction or other flocculation reactions have the value enjoyed by the Wassermann reaction, as modified by Hauptmann, in differentiating general paralysis from other neurosyphilitic conditions.

R. G. G.

[51] The quotient of meningeal permeability to normal buffer haemolytic amboceptor in cerebrospinal syphilis (Quoziente di permeabilita meningea al normale ambocettore emolitico antimontone nella lue del sistema nervoso).—M. PIOLTI. Riv. di pat. nerv. e ment., 1932, 40, 390.

The method is explained and the findings of 26 cases of progressive paresis are recorded. The result was positive and variable between 0.2 and 1 in 100 per cent. of cases; in 10 per cent. of these the presence of complement was also demonstrated. The sensibility of this test in paresis is superior to that of the Wassermann test, and in the group of specific affections of the nervous system is pathognomonic of paresis and tabes. Malarial therapy lowers and sometimes abolishes the quotient, but clinical improvement does not always correspond to the improvement in the quotient. This quotient is the only one which differentiates between paresis and cerebral syphilis. It
is therefore specially useful and may help to further the problem of the biological differentiation between these two.

R. G. G.


Some 140 cases of cerebral hæmorrhage or thrombosis (with 50 autopsies) were studied completely as regards spinal fluid pressure and contents.

A spinal pressure above 300 is suggestive of hæmorrhage, but does not exclude thrombosis.

Hæmatorrhachis or xanthochromia of the fluid points with all but complete certainty to cerebral or meningeal hæmorrhage, except in those rare cases where thrombosis has induced a hæmorrhagic infarct.

Increase of protein above 20 indicates hæmorrhage, though the fluid may not be coloured.

Cellular content is not of diagnostic value to any extent.

A. B.


This study is based on 14 cases of hemiplegia and paraplegia due to cortical or subcortical lesions. The authors group these in six categories: (1) hemiplegia affecting chiefly the upper limb in which there is degeneration of the direct pyramidal tract; (2) paraplegias from cerebral lesions, and (3) hemiplegias affecting the leg principally, each with no degeneration of Türeck's tract; (4) hemiplegia with motor loss preponderating in the upper limb, and (5) more complete hemiplegia, each without degeneration of Türeck's tract; (6) hemiplegia affecting chiefly the lower limb with degeneration of Türeck's tract. The authors support the view that Türeck's bundle, being motor to the upper limbs and upper part of the trunk, is most likely to be affected from lesions of the middle part of the ascending frontal convolution or the genu of the internal capsule. This is supported by the cases which they have examined, as most of these fall within the first three categories, the last three including isolated cases which do not follow the general rule. They find no evidence to support the view that Türeck's bundle is an extrapyramidal pathway. In fact, a study of its phylogeny indicates that it is of later origin than the crossed pyramidal tract, being associated with the assumption of
the erect posture by man and the primates, and probably with the more skilful movements of the upper limbs which have been developed with that posture. They have made no attempt to decide whether the fibres of this tract decussate in the cord, but are of opinion that some decussation at least takes place, probably after the fibres have lost their myelin sheaths.

J. G. G.


In the decerebrate cat destruction of Deiters’ nucleus or interruption of the deitersospinal tract is followed by hypotonia and a change in tendon reflexes, which take the form of those of the spinal animal. This alteration in myotatic relectivity is the consequence solely of lesions of Deiters’ nucleus and its efferent path. The change in the myographic curve results from abolition of muscle tonus and the consequent alteration in length of muscle fibres participating in the reflex.

In man, loss of tendon reflexes may ensue on lesions or functional changes of Deiters’ nucleus. In subtentorial tumours loss of the reflexes points to pontobulbar invasion and is an ominous sign.

J. S. P.


The present report is devoted to a description of certain experiments designed to permit direct investigation of the relationship of rapid decompression of intracranial hypertension to the subsequent occurrence of oedema of the brain in dogs. Evidence is presented that cerebral cellular damage may be produced in this way, and this concept, if clinically applicable, may well explain such heretofore empirical tenets as: (1) the necessity of gradual decompression when cerebrospinal fluid is withdrawn by rachicentesis in cases of cranial hypertension; (2) the occurrence of postpuncture cerebral or bulbar symptoms if this precaution is neglected; and (8) the advisability of even maintaining the ventriculosubarachnoid pressure during the intrathecal or intraventricular injection of air for roentgenographic purposes.

R. M. S.
[56] The mode and site of action of strychnine in the nervous system.—
J. G. Dusser de Barenne. Physiol. Reviews, 1933, 13, 325.

As a generalization, it may be said that strychnine 'takes away all resistances in the various reflex arcs'; its typical tetanic attacks are of central origin, and spinal. Professor Dusser de Barenne concludes from personal experimentation and for other reasons that the alkaloid acts on the perikarya (cell-bodies) in the dorsal horns of the cord, and that tetanic spasms occur solely when these are affected together with the cell-bodies of the motor cells in the ventral grey matter of the cord.

J. S. P.

[57] The histopathogenesis of primary systematized nervous diseases (Die Histopathogenese der primär-systematischen Nervenkrankheiten).—

Primary systematized nervous diseases can be distinguished from others by a number of different histopathological findings. These diseases begin in the nerve-cells of the centres concerned (e.g. cortical motor centres); they are 'centrogenic,' practically always symmetrical, and in the case of motor diseases the changes begin at the periphery and creep up the systems to their cellular origins. Such diseases are always congenital, in the sense of being due to some inherent, endogenous, defect; they are examples of 'Zentrumabiogenesis.' This is followed by secondary degeneration throughout the systems affected—a 'Systemabiotrophie.' The processes are 'neurogenic,' by which is meant that they involve nerve-cells from within, and are to be clearly separated from 'neutrotropic' processes, where the cells are invaded from without. Further, the processes are restricted to neural parenchyma, to neuroectodermal elements. The purely segmental, systematized character of such affections may, however, be partly masked by incidental mesodermal changes.

S. A. K. W.

[58] Experimental toxic encephalomyelopathy (Diffuse sclerosis following subcutaneous injections of potassium cyanide).—A. Ferraro.

Experiments conducted by Dr. Ferraro prove conclusively that a condition of diffuse encephalomyelopathy possessing the histological characteristics of diffuse sclerosis can follow the administration of repeated doses of a toxic substance. He has been able to produce definite processes of demyelination, with typical involvement of axis-cylinders and typical glia reactions; the lesions have shown a predilection for white matter and been more severe in perivascular areas. As regards the identity or otherwise of multiple and of
diffuse sclerosis Dr. Ferraro ranges himself alongside those who hold that the difference is only one of extension and of intensity, and that the two processes are fundamentally the same. In both multiple and diffuse sclerosis areas of softening and necrosis have been seen, and he has produced them also by his experiments.

Whether his lesions should be considered inflammatory or degenerative is next discussed. In 16 out of 18 cases studied they were purely degenerative, but this statement cannot be made of the other two, and Dr. Ferraro is rather at a loss to explain them. He affirms, however, that under certain circumstances a 'true type' of inflammation may be produced by an aseptic condition or by toxic factors irrespective of a definite infection. This applies in particular to diffuse sclerosis, where an inflammatory, a degenerative, and perhaps a blastomatotic form can be distinguished.

Attention is also directed to the production of areas of demyelination in animals by diets deficient in some vitamins.

J. V.


Taking amaurotic family idiocy as his chief topic, Professor Spielmeyer outlines various arguments which in his view prove that the origin of the cellular changes in that affection is the deposition of lipoids in the cytoplasm. Technically, the process is known as 'phosphatid-cellular lipoidosis.' Evidence is also adduced which in his opinion favours the contention that the underlying disorder of the Niemann-Pick affection is a disturbance of lipoid metabolism and that it acts also on the nervous system. Thus there is the same principle of morbid activity in both amaurotic family idiocy and splenohepatomegaly, though the two are not identical. Professor Spielmeyer criticizes the views of Schaffer and allies himself with those who think them untenable.

S. A. K. W.


Clinically, the case here described was rather unusual in that the patient lived for some time after the commencement of the illness, thus making it possible for early gliosis to appear as a sequel to the more acute part of the
infection. In consequence, a fair amount of hyperplasia of fibrillar glia was seen in the central nervous system. Otherwise the findings were those of a myeloencephalitis. Their resemblance to the histological picture of vaccine-encephalomyelitis is duly emphasized.

It is gratifying to find that the authors make a stand against the habit of putting affections into one etiological group because of their morphological similarities or identities, on the assumption that the characteristic histological changes result from activation of a latent virus.

S. A. K. W.


Four cases of malignant tumour of the hypophysis are reported, with post-mortem findings. They all invaded the third ventricle extensively, and some of them involved the cerebrum as far as the frontal lobes in front and the pons behind.

The etiology and pathology of malignant tumours of the hypophysis are reviewed.

The simplest division of malignant tumours of the hypophysis is into adenocarcinoma, for those composed of epithelial elements of the anterior lobe; and craniopharyngeal epithelioma, for the embryonal tumours derived from Rathke’s pouch.

The term adamantinoma should be limited to a special class of tumour arising in the tooth germ and occurring in the jaw. True adamantinomas arise in structures which are fully formed and functioning, while embryonal tumours of the hypothsis arise in primitive vestigial elements.

Malignant tumours of the hypophysis composed of epithelial elements of the anterior lobe are uncommon, but they are not exceedingly rare. Malignant tumours derived from remnants of Rathke’s pouch are more frequent, and probably all solid tumours of this type are potentially malignant because of their tendency to invade the diencephalon.

Pituitary symptoms are not prominent in malignant tumours of the hypophysis, their occurrence depending somewhat upon whether the growth originates within the sella or is suprasellar from the beginning.

Clinical criteria by which malignancy may be diagnosed are emphasized. The most reliable of these is early and rapidly progressing damage to vision, together with evidence of involvement of the diencephalon. Signs of increased intracranial pressure are late manifestations.

Symptoms indicating invasion of the diencephalon are obesity, polyuria, and hypersomnolence.

R. G. G.
The cholesterol content of the blood in patients presenting the epileptic syndrome appears to have some significance in indicating the direction in which physicochemical changes are taking place.

The average whole-blood cholesterol values are slightly lower in a group of epileptic patients than in a corresponding normal group.

The range of variation in whole-blood cholesterol values from hour to hour throughout 24-hour periods is greater in epileptic patients than in normal individuals.

One case undergoing convulsive activity during the 24-hour period of study showed a preparoxymal fall in the whole-blood cholesterol amounting to 11 per cent. of the average cholesterol value for the day.

R. G. G.

**SENSORIMOTOR NEUROLOGY**


By the term 'genuine epilepsy' Dr. Meduna appears to mean those cases in which he can find no pathological changes except swollen ganglion-cells with large, pale nuclei. He alleges that 'genuine epilepsy' may begin with Jacksonian attacks, also that Jacksonian and general fits are interchangeable in that condition; and that 'genuine epilepsy' is a chronic disease of the whole central and vegetative nervous systems, whose first sign may be psychical degeneration before fits ever develop. We are informed that the 'characteristic' features of 'genuine epilepsy' are: psychical degeneration, epileptic attacks, and 'pure parenchymatous degeneration' of the brain. But the evidence offered for the validity of Dr. Meduna's claims is rather dubious.

S. A. K. W.

[64] Modern ideas on the convulsive state (Concezione moderna dello stato convulsivo).—M. OSNATO. *Riv. di pat. nerv. e ment.*, 1932, 40, 362.

The literature is examined and the results of the author's own work are given. He considers that the changes described by Spielmeyer as occurring in the brains of those subject to convulsive seizures and reproduced experimentally by Gildya and Cobb represent the final results of a chain of phenomena which constitute the convulsive state.

In all cases there exists something which produces an irritability of the