performed twenty-four times, and at each puncture, after withdrawal of a suitable amount of cerebrospinal fluid, antimeningococcal serum was injected. Both patients were cured. No untoward effects were observed on any occasion either during or after the operation. It was found that the number of cells in the fluid obtained from the cisterna was always much less than in that obtained from the lumbar theca. In cases of meningitis where frequent punctures are necessary it is convenient to be able to use two routes, and Hardwich considers that suboccipital puncture is attended with less discomfort to the patient and that there is less chance of the fluid being contaminated with blood.

J. P. Martin.


The brain of a diabetic subject who succumbed to pneumonia was found to contain multiple gray masses scattered irregularly through the white matter of the left frontal lobe. A section of one of the masses showed the presence of embryonic nerve cells lying in a matrix of delicate fibres. Isolated nerve cells of the pyramidal type could also be found in the normal white matter separating the gray areas. The condition appeared to be due to some abnormal process, acting during the fourth month of fetal life, which to a limited extent had checked the outward migration of neuroblasts in the left side of the forebrain vesicle.

R. M. S.

[107] Parts of central nervous system which tend to exhibit morbid recessive or dominant characters.—Smith Ely Jelliffe. Arch. of Neurol. and Psychiat., 1924, xii, 380.

A critical account of the influence of heredity in nervous and mental disease which will well repay perusal by all interested in a fascinating though somewhat speculative subject.

R. M. S.

SENSORIMOTOR NEUROLOGY.


The symptoms and diagnosis of this condition are discussed. The phenomenon peculiar to pachymeningitis hæmorrhagica interna is furnished by an examination of the cerebrospinal fluid, which in this condition is bloody, containing well-formed red blood cells, and shows marked increase of albumin and globulin. Smears are negative and cultures are sterile. A striking feature of the disease is the reappearance of fresh blood in the cerebrospinal fluid following every exacerbation of symptoms, such as headache and convulsions. A case is reported of a heavy beer drinker, male, age fifty-eight years, with no history of trauma. The onset was sudden, with intense headache, vomiting and convulsions. He became stuporous, with severe pains in the muscles, cramp, and paravertebral tenderness. The temperature was 102° F. and the pulse 80. Kernig's sign was present. Four days after
the onset there was a suspicion of pyramidal signs on both sides. There
was conjugate deviation of the eyes to the left. The discs were normal, as
were the pupillary reflexes. The cerebrospinal fluid was orange-yellow in
colour; albumin, 3 + ; globulin, 3 + ; Fehling’s reduction, 3 + . A
cytological examination was not made. The Wassermann reaction in the
blood and cerebrospinal fluid was negative. There was phenomenal relief
of all symptoms following lumbar puncture, but a relapse of the symptoms
after four days, which was not severe. A second lumbar puncture resulted
in definite and permanent relief, the fluid on examination displaying the same
characteristics as obtained at the first.

Lewis Yealland.

1924, xix, 348.

A miner, age forty-seven, four days previous to his death, developed an
anthrax pustule on the right side of the chin, after shaving with a new shaving
brush. When examined for the first time, a few hours before death, the
patient was unconscious and exhibited right hemiplegia. Autopsy: The dura
covering the brain was tense and purplish from the presence of blood beneath
it. The pia arachnoid covering the vertex showed congestion of the vessels,
with hæmorrhages. The leptomeninges covering the cerebellum, pons and
medulla were congested, but not hæmorrhagic. On section of the brain a
hæmorrhagic area, 1 in. in diameter, was found, involving the left internal
capsule and the neighbouring basal ganglia, and extending into the anterior
horn of the left lateral ventricle, in which there was a small clot. Subependymal
hæmorrhages were found in the lateral ventricles and the fourth ventricle.
Pathological changes in other organs consisted of congestion and hæmorrhage
in the spleen, kidneys, mucous membrane of the stomach, duodenum, jejunum
and lungs. The latter also showed silicosis. B. anthracis was demonstrated
in smears from the pustule in the chin, meninges, duodenal mucosa and
retroperitoneal glands, the diagnosis being confirmed by cultural and inoculation
tests. Among the interesting features displayed in such cases are the
rapidity of development of the disease and the demonstration of the anthrax
bacillus in the sanguineous cerebrospinal fluid. The lesions in the brain
are essentially identical with those of anthrax infection in other parts of the
body, viz., an acute hæmorrhagic, non-purulent inflammatory lesion, with
destruction of tissue by edema. The writer points out that the absence of
facial œdema and the presence of lesions in the intestine suggest that the
spread of the disease was by way of the blood stream.

Lewis Yealland.

[110] Diffuse sarcomatosis of the meninges (La sarcomatose diffuse des
méninges. Maladie d’Ollivier).—Knud H. Krabbe. L’Encéphale,
1924, xix, 33.

The author describes a case of diffuse involvement of the meninges by a
vascular round-celled sarcoma in a child of two years and nine months. He
discusses the symptomatology of the cases reported in the literature and shows
that in the great majority the first symptoms were those of cerebral tumour, to which were added later severe pains in the limbs and back and wasting of the limbs. The diagnosis can be established in every case by lumbar puncture, which gives a cerebrospinal fluid presenting the syndrome of Froin (xanthochromia and massive coagulation) and often containing definite tumour cells. (See also an article by Ford and Firor, Bull. Johns Hopkins Hosp., 1924, xxxv, 65.)

J. G. Greenfield.


Professor Winkler’s case is that of a man of fifty-nine, who showed the symptoms of cerebellar ataxia and dysarthria, and whose brother had been similarly affected. A diagnosis was made of the olivopontine atrophy of Dejerine and Thomas.

Pathological examination revealed a chronic lesion of the cells in the neocerebellar nuclei, destroying neocerebellar paths with their arborizations (intragranular fibres, moss fibres), and leaving intact the afferent paths from the spinal cord. Some Purkinje cells were involved, but many more were intact. Expressed generally, in this cerebellum all the younger afferent paths had disappeared, whereas the older ones remained unaltered.

This does not harmonize with the usual ideas of neo- and palaeocerebellum. Distinct borders between the two cannot be schematized. Some of the neocerebellum is interpolated in the midline (palaeocerebellum), while palaeocerebellar elements penetrate laterally, since in Professor Winkler’s case pericellular (tangential) fibres and well-preserved Purkinje cells persisted in the lateral lamellae.

S. A. K. W.


The authors give a careful clinical and pathological description of a case, that of a young man of twenty-six, which they class in the pseudosclerosis group. There was marked tremor on the right side, little, if any, on the left. Pyramidal signs were present in the form of paresis of the legs, with an extensor response, more pronounced on the right. Parenchymatous changes were found in the corpus striatum (chiefly the neostriatum), but there were cellular alterations also in the thalamus, cerebellum, and cerebral cortex; in the case of the latter, the Betz cells and the larger pyramidal cells of the superior temporal gyrus were notably degenerated.

In cases where motor disorders are assigned to the corpus striatum it is desirable always to examine also the motor centres of the cortex. Cases of simultaneous involvement of cortex and corpus striatum have been described by Jakob under the title of ‘spastic pseudosclerosis,’ but in his case there was
no cirrhosis of the liver. Whatever such cases may be, it is unjustifiable to
include them as a sub-variety of progressive lenticular degeneration.

S. A. K. W.

[113] Electrical signs of disturbance of the pyramidal tract (Signes électriques
de perturbation de la voie pyramidales).—VINCENZO NÉRI. *Revue
teuroi.,* 1924, xl, 44.

The subject, in the sitting position, has one pole of a galvanic circuit applied
to his back in the form of a pad electrode. The other electrode is immersed
in a basin of saline, and the subject places his hands in this basin in a comfort-
able position of pronation and flexion. In normal subjects, with minimal
currents, the response to stimulation is flexion of the fingers in whichever
direction the current is sent; with increasing strengths of current polar
variations appear. The response of the hands to anodal stimulation is, as
before, flexion. When the current is reversed so that the cathode is in the
basin, the response is at first flexion, changing to extension of the fingers as
the current is increased.

In the hemiparetic subject cathodal stimulation of a strength which
produces finger flexion of the sound hand causes extension of the fingers of
the paretic hand. The extension in the paretic hand is a slow movement,
different in character from the brusque extension which may be induced in
the sound hand by still stronger currents.

In the author’s experience, during six years, this sign has proved as
valuable in the diagnosis of organic paresis of the hand as is the sign of
Babinski in the leg.

In the lower limb, with the feet immersed in the basin of saline, the
anodal current causes flexion, the cathodal current extension, of the toes.
In the paretic limb the extension of the great toe is more readily provoked
by the cathodal current than in the normal limb, and is a slower movement.
The galvanic current thus provides a new method of eliciting the sign of
Babinski. It may also be employed for demonstrating an irregularity of the
abdominal reflexes.

Variations in the technique used and the responses obtained are dis-
cussed. The paper is well illustrated by photographs.

C. P. S.

[114] Paraplegia in flexion (Considérations sur la paraplégie en flexion à

Numerous cases of paraplegia in flexion due to cerebral disease have been
reported. The author discusses the physiological basis underlying the para-
plegia in these cases, and reports a fresh case. It was that of a microcephalic
idiot, who at the age of fifteen gradually became paralyzed in the lower limbs,
which soon assumed an attitude of intense flexion so that the right knee
reached the xiphisternum, and the left the axilla, the heels being pressed
against the buttocks. All the reflexes of the lower limbs were greatly reduced;
the knee jerks were very feeble and the ankle jerks absent; the plantar
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reflexes could not be obtained. On the other hand, the abdominal and cremasteric reflexes were preserved and the arm jerks exaggerated.

The post-mortem examination revealed no gross lesions in the central nervous system. The brain was small, weighing only 898 grammes, and there was some thickening of the pia mater, which, however, stripped quite readily from the cortex. Microscopically the cortex was thin, and the pyramidal cells were small, few in number and irregularly placed, those of the deep layer being no larger than those of the superficial layer; the tangential fibres were sparse and the line of Baillarger scarcely apparent; neuroglial overgrowth was seen everywhere, especially in the subpial zone. The cord showed no degeneration of fibre tracts, but considerable atrophy of the anterior horn cells. The central canal was widened throughout the length of the cord.

The author regards the phenomenon of paraplegia in flexion as due to an exaltation of the reflex automatism of the lumbo-sacral enlargement of the spinal cord. It is not always associated with diminution of the deep reflexes, as in some cases these have been exaggerated. The phenomenon may be due to a variety of causes, among which irritation of the anterior horn cells should possibly be included. That it is not always associated with gross lesions of the long fibres of the cord is shown by the present case, as also by those cases which have recovered after operations for the relief of pressure on the spinal cord.

J. G. Greenfield.

Prognosis and treatment.


This paper contains a detailed clinical account of five cases of cerebral glioma (histologically verified at operation or autopsy) which were treated with deep x-ray. All the cases were of long duration, and x-ray therapy was resorted to after surgical interference had been attempted. The results were not encouraging. The immediate effect of irradiation was, as a rule, evidence of an increase of intracranial pressure; in several instances this was accompanied by the development of fresh physical signs. In no case was any improvement noted. Microscopic examination of cases which came to autopsy showed that in one case the tumour had become necrotic and liquid. The symptoms, however, were not relieved. In other cases the irradiation appeared to have stimulated growth. Claims to successful results made by previous writers upon this subject are critically reviewed. On theoretical grounds it would appear that the glioma, on account of the specialized nature of its cells, and its inaccessibility to radical operative interference, offers the most hopeful target for irradiation. Possibly the glioma of fibrillary type may be more resistant to the x-rays than the richly cellular growth. The authors’ cases appear to have been all of the former variety.) It is by no means claimed that radiotherapy will not prove of value in the treatment of these tumours. Failure in the instances so far recorded