using the term poliomyelitis, they are careful to point out that the pathological process is much less severe than in anterior poliomyelitis, and that complete recovery may be expected.

Incidentally they note the comparative frequency of diphtheritic paralysis amongst adults in recent years; but whether this is due to the more universal use of serum or to an alteration in the type of virus it is difficult to determine.

W. JOHNSON.

SYMPTOMATOLOGY.


Numerous authors, especially of the French school, have reported an increase in the percentage of glucose in the cerebrospinal fluid in cases of encephalitis lethargica, as well as in other conditions affecting the mesencephalon. In a number of cases of the former disease the amount of glucose varied from 70 to 100 mgrm. per 100 c.c. of cerebrospinal fluid. This was contrasted with Mestreza's figure of 53 mgrm.—the average of 11 cases where the cerebrospinal fluid was removed at operation prior to stovaine anaesthesia. Other observers have found the normal to be higher: von Jakseh 60 to 80 mgrm., Kraus and Corneille 80 mgrm., A. H. Hopkins 60 to 75 mgrm., Weston 60 to 70 mgrm. The variation in these results is probably due to difference in technique.

Coope examined 95 cerebrospinal fluids for glucose by the method of Folin and Wu. No normal fluids were examined. The glucose percentage in the cerebrospinal fluid of 11 cases of lethargic encephalitis varied from 54 to 94 mgrm., with an average of 74 mgrm. In 51 cases of mental disease the figures varied from 44 to 102 mgrm., and in a case of imbecility a reading as high as 111 mgrm. was obtained. On the other hand, in 12 cases of tuberculous meningitis the glucose in the cerebrospinal fluid varied from 14 to 53 mgrm., with an average of 28 mgrm., a reading above 40 mgrm. being obtained in only one case. An examination of the glucose content of the cerebrospinal fluid is therefore of value in distinguishing encephalitis lethargica from tuberculous meningitis, but it is doubtful if it gives as much information as the simpler examination of the chlorides in the cerebrospinal fluid. It would have been interesting to know to what extent the glucose in the cerebrospinal fluid varied with that of the blood, but unfortunately the latter was not examined.

J. C. GREENFIELD.

[41] A contribution to the study of the pathological plantar reflex (Contribution à l'étude du réflexe planteaire pathologique).—L. BARRAQUER. Revue neurol., 1921, xxxviii 455.

A brief report of a case of hemiplegia in a boy, age 12. The onset was apoplectiform in the course of a septicaemia which terminated favourably.
The nature and distribution of the paralysis and rigidity conformed to the usual type met with after a pyramidal lesion.

The plantar response on the affected side differed both from the normal and from that generally obtained in cases of this kind. Stimulation of the sole gave rise to vigorous plantar flexion of all the toes, including the hallux. The reaction developed slowly and was steadily maintained. The author comments briefly upon the variations of the plantar response met with in health and disease, without entering into a discussion of physiological theories. The paper is well illustrated by two photographs.

C. P. Symonds.

[42] Some personal experiences with myasthenia gravis.—CORIAT.

Jour. Amer. Med. Assoc., 1921, lxxvii, 270.

The author reviews 18 cases which have come under his notice. He thinks mild cases are often missed, and that the disease is commoner than generally supposed. It occurs practically at all ages and in both sexes, and over 50 per cent of his cases were those of Russian Jews. The symptoms were as follows: Severe general fatigue and thickness of speech, difficulty in chewing food and swallowing (bulbar symptoms), 5 cases. Severe general fatigue with cardiac symptoms (central arrhythmia and extrasystoles), 1 case. Pure bulbar symptoms (difficulty in swallowing and chewing food, thickness of speech) without general fatigue, 2 cases. Fatigue and diplopia, 2 cases. Diplopia, ptosis, thickness of speech, difficulty in swallowing, 3 cases. Excessive fatigue and drowsiness, 1 case. Localized fatigue in the legs, 2 cases. Severe general fatigue, 1 case. Diplopia, 1 case. Double ptosis, 1 case.

Fatigue is rapid in onset and improved by rest, this contrasting with the fatigue of the psychoneurosis. The characteristic myasthenic electrical reactions were always present. The author thinks the mild cases recover, and even severe cases may have long remissions. The main criterion in treatment is rest. Biochemical tests showed a diminished creatinine excretion and an increased calcium output, which may point to a derangement of muscular metabolism.

He suggests that further investigations are required with respect to the vegetative nervous system, toxic causes, endocrine disturbances, and unconscious psychic states.

R. G. Gordon.


In 73 cases of facial palsy, Jalcowitz found the right side affected 29 times, the left 40 times, and both sides 4 times; of 26 cases which were fully investigated, 22 were of the so-called 'rheumatic' type, i.e., no cause other than 'chill' could be assigned. In such cases the paralysis has been thought by most authorities to be due either to an inflammation of the nerve, or to pressure within the facial canal, or to a combination of these
factors; but Jalewitz suggests that the site of the lesion may not be within the canal or at its exit, but at the nerve-endings. In support of this he mentions: (1) That when the palsy is incomplete, the muscles of cheek and upper lip are most affected, while those of the forehead, which are less exposed, may almost escape; (2) That while the secretion of tears is frequently affected, the secretion of saliva is very rarely disturbed; (3) That the corneal reflex not infrequently disappears on the affected side, and this he believes to be due to an accompanying peripheral lesion of the fifth nerve. He argues that, if the site of the lesion were in the bony canal, all parts supplied by the nerve would be affected equally, forehead as much as cheek, salivary glands as much as tear gland, and there could, of course, be no accompanying lesion of the trigeminal.

The author states that he has not found the absence of corneal reflex mentioned by other writers, and describes two cases in which it was noticed.

The second half of the paper is concerned with a description of the method of measuring the relative amount of tear secretion by means of strips of sterilized filter paper placed in both conjunctival sacs. Of 13 patients in whom this was done, 7 showed a disturbance of tear secretion—hyposecretion in 5 and hyperssecretion in 2. Investigation of the salivary and sweat secretions did not show any changes.

J. P. Martin.


Kahler, in reporting a case of narcolepsy in a young woman of 21, states that while cases of this nature in men have been recorded frequently, only four cases have been described in women, his case making the fifth. The patients are subject to a sudden onset of sleep with a simultaneous attack of motor weakness, so that they fall down and are asleep by the time they have fallen. Attacks may occur many times in the day; in some cases they are brought on by laughter or excitement; the patient has no power to inhibit them. The sleep may last from half a minute or so to several hours; it appears to be in every way natural, though in some cases the patient may be difficult to rouse, and in others if roused he may have a headache. As regards the female cases, the author emphasizes the fact that the attacks are more frequent and the sleep is of longer duration at the menstrual periods; further, though he does not mention the point, the onset of the condition seems in the majority to have occurred about puberty.

Narcolepsy has generally been considered either to be a hysterical phenomenon or an epileptic manifestation—petit mal followed by sleep—though Gélineau was of a different opinion, and Redlich, Jolly, and Singer have associated it with the hypophysis.

Against hysteria Kahler notes the absence as a rule of any other kind of hysterical manifestation, the fact that the attacks are always of the same kind, that they cannot be influenced by suggestion, and that the onset of the illness is gradual. Against epilepsy there are the absence of all the usual signs of an epileptic attack, and the fact that in spite of the frequency of the attacks there has been no mental deterioration in cases.
followed for many years; moreover, bromides have no influence on the condition. As regards the theory that the pituitary is involved in the causation, x-ray examination showed, in the case reported, an abnormally small sella turcica, a condition also found by Redlich and Jolly and Singer. Kahler mentions that acromegalie changes in the extremities, polyuria, obesity, glycosuria, have all been reported in different cases, but does not discuss the matter further, and only comes to the vague conclusion that narcolepsy is due to a constitutional peculiarity which causes an exhaustion of the cerebrum.

J. P. Martin.

[45] Studies in familial neurosyphilis: (1) Conjugal neurosyphilis.—J. E. Moore and A. Keidel. Jour. Amer. Med. Assoc., 1921, lxxvii, 1. A summary of the results of examination of the 52 marital partners of 50 neurosyphilitic patients. In each case, in addition to a careful anamnnesis and clinical examination, special attention was paid to the laboratory investigation of the blood and spinal fluid. Of the whole group of 52 partners, 40 were syphilitic; and of these, 21 had neurosyphilis. In the group of 22 meningovascular syphilities, 18 partners had syphilis; but of these, only 6 were neurosyphilitic. Of the 22 partners of 20 cases of general paralysis, 16 had syphilis; and of these, 11 were neurosyphilitic. Six of the 8 partners of tabetics had syphilis; and of these, 4 had neurosyphilis. The type of conjugal neurosyphilis was similar in both partners 8 times. In 7 instances neurosyphilis was asymptomatic in the marital partner, and was only detected by routine examination of the cerebrospinal fluid. From the material available the authors do not feel qualified to give definite conclusions regarding the existence of a neurotropic strain of Spirochaeta pallida.

R. M. S.


True exophthalmos must be distinguished from the pseudo form which occurs in myopia (more especially when this is unilateral), in glaucoma (infantile form), in retraction of the lids, and in obesity. Weakness of the orbicular muscle (in facial paralysis), and a plethoric state of the veins of the head, are also a cause of pseudo-exophthalmos. Clinically the author finds it useful to measure the degree of exophthalmos by means of a simple mechanism—the ophthalmometer.

The direction of the exophthalmos—whether median or lateral—may provide valuable diagnostic evidence. Similarly, the reducibility or otherwise of the protruding globe should be investigated. Diplopia is not invariably complained of—more particularly is this so when the condition has been one of slow development. Diplopia as a symptom is more marked when the eye displacement is only slight. Careful examination of the fundus oculi and of the accessory nasal cavities should invariably be undertaken, as evidence of supreme significance may be obtained by such means.
Two groups of exophthalmos are to be recognized: (1) That due to relaxation of some portion of the musculature of the eye (the recti muscles act as retractors and the obliques as protractors of the globe); and (2) That due to lesions involving the walls of the orbital cavity.

Group 1 contains the more usual forms of exophthalmos—where the condition is, as a rule, bilateral—such as occurs in paralysis of both third nerves, irritation of the cervical sympathetic, and Graves' disease. In the first of these we have a globe which is almost immobile; in the second the exophthalmos is accompanied by dilatation of the pupil and a widening of the palpebral fissure; whilst in the third the other symptoms of the disease are present.

Group 2 contains most of the forms of unilateral exophthalmos. They are due to either: (a) An increase in the contents of the orbit, or (b) A decrease in the size. The latter is seen in hydrocephalus, rickets, and tumours of the orbital wall; the former is a common cause, and includes various inflammatory conditions (involving Tenon's capsule, intra-orbital cellular tissues, orbital bony walls, and the neighbouring sinuses). Of non-inflammatory conditions there are emphysema (sudden onset) and tumours (slow onset). The latter first cause protrusion of the eye, then oedema, and finally limitation of movement together with congestion of blood-vessels. They may be solid tumours, cystic, or pulsatile. In the pulsatile form, ligature of the common carotid should be undertaken if compression of this vessel has first shown that improvement will occur.

W. Johnson.

[47] A syndrome of symmetrical ataxia of the fingers in medullary lesions (Sur un syndrome d'ataxie symétrique des doigts au cours d'affections médullaires).—Verger and Greiner de Cardenal. Jour. de Méd. de Bordeaux, 1921, xcii, 211.

Ataxia is as well known, though less common, in the upper limbs as in the lower. The kinesthetic sensations (cutaneous, joint, and muscle senses) may be affected in peripheral nerve lesions, tabes dorsalis, mid-brain, cerebellar, and cerebral lesions (e.g. post-hemiplegic ataxia and parietal syndrome ataxia). In the first two forms the condition is usually bilateral and toxic in origin. In the remaining forms the cause as a rule is a focal lesion, producing a unilateral ataxia.

The spinal form of ataxia (tabes) offers a distinct difference from the cerebral form (parietal cortex lesion). In the former the whole limb is affected and the ataxia appears chiefly in the grosser movements. In the latter, it is often so slight as only to constitute a little awkwardness when the finer movements are attempted—as in buttoning the collar, striking a match, pinning one substance to another, etc. Further, all grosser movements of the limb are passably done, while the stereognostic sense is defective.

The authors proceed to give details of four cases of lesions in the medulla which presented an ataxia of the fingers closely similar to that of cerebral origin. The etiological factor was not the same in each case (syphilis, lethargic encephalitis, and antirabic serum being the probable causes).
The patients presented bilateral ataxia of the fingers, together with para-plegia and loss of sphincter control. The unlikelihood of a bilateral cortical lesion is pointed out, and the authors accordingly place the lesion in the medulla or mid-brain.

W. JOHNSON.

[48] Syndrome of complete section of the dorsal region of the spinal cord (Syndrome de section complète de la moelle dorsale datant de 10 ans).—L’HERMITTE and PAGNIEZ. *Presse méd.*, 1922, xxx, 57.

The syndrome of transection of the spinal cord has been considerably elaborated and elucidated by the experience of neurologists during the war. In those instances where the cord below the level of the lesion remains intact, evidences of its vitality soon appear. The early stage of abolition of all reflexes gives place to one in which the cutaneous, deep, and visceral reflexes become re-established in orderly sequence and the muscles do not undergo atrophy. Where, on the other hand, the cord below the level of the lesion is severely damaged, the second stage is only partially, if at all, entered on, and wasting of the muscles is marked, whilst the condition of the bladder and rectum is that described under the term ‘automatic’. The case the authors record is of the latter variety.

The patient, a boy, 13 years of age, when three years old sustained a spinal injury resulting in paralysis of both lower limbs. The highest level of the site of trauma, as judged by the sensory loss, is the sixth dorsal segment. A good clinical description is given, including observations on the blood-pressure and temperature of the paralyzed limbs, but the chief interest of the case lies in the observation regarding the growth of the bones in the paralyzed lower half of the body. The length of the bones in the legs is the same as that found in a normal child of the same age. X-ray examination revealed the diaphyses to be practically normal. Accordingly it must be conceded that skeletal growth occurs independently of the so-called trophic influence of the spinal cord. This is supported by the few cases of anencephalomyelitis which have been recorded. The fact that defective growth occurs in a limb suffering from acute anterior poliomyelitis, the authors would attribute to the inflammatory and toxic nature of the virus.

In conclusion, they suggest that the sympathetic nervous system and the centres for vascular tonus are the factors chiefly associated with the growth of the skeleton, at the same time admitting that too little is known on this subject for any definite opinion to be formed.

W. JOHNSON.

TREATMENT.


In an attempt to determine whether an increased amount of salt could be detected in the cerebrospinal fluid, following intravenous injections