The degeneration of the stratum intermedium of the substantia nigra seems to indicate that it derives from structures situated above. A small bundle of fibres lying dorsolaterally in the substantia nigra was intact and could be traced into the fillet.

The superior cerebellar peduncle of the non-operated (right) side of the brain was always a little smaller than that of the left, although the red nucleus was intact; the corticothalamocerebellar system must therefore be of considerable size in the cat.

The rotation of the head to the right is regarded as a reflex consequence of the loss of proprioceptive stimuli resulting from the destruction of the lemniscus.

The choreiform movements were manifest even in animals in which the red nucleus was undamaged. As regards the rigidity which appeared after some days, it is emphasised that the red nucleus has not the influence in its production which it has been considered to have.


In this paper clinical and short pathological descriptions are given of seven cases, all presenting some disturbance of tone or movement, but, apart from that, so diverse that they do not form any homogeneous group. Cases 1, 2 and 3 were cases of generalised rigidity in elderly atherosclerotic subjects, and inflammatory as well as simple degenerative changes were found in the brains.

Case 4 was clinically similar to paralysis agitans, the subject being a woman 72 years of age: the pathological changes preponderated in the substantia nigra.

Case 5 is the most interesting; it was one of choreiform movements involving the left arm (especially the hand) and face, and occasionally affecting the left leg, in a man of 75. In the brain an old haemorrhage was found in the head of the right caudate nucleus and the adjacent part of the putamen. This sharply localised lesion was evidently responsible for the choreiform movements which the patient exhibited. Its position seems to lend some support to the view that different parts of the caudate nucleus are associated with the control of movement in corresponding parts of the body.

The seventh case was one of Little's disease and the pathological changes found were primarily cortical.

\[182\] Friedrich's ataxia.—T. M. Barrett. Arch. of Neurol. and Psychiat., 1927, xvii, 28.

A description of the pathological changes in two cases of Friedrich's ataxia. The patients were full-blooded negro brothers; the elder died three years...
after the onset of the illness and his case was reported by Lloyd and Newcomer in 1921. The disease in the younger brother lasted seven years.

The author has nothing new to add to the pathology of this disease, but his analysis of the voluminous literature should prove useful to other workers in this field. R. M. S.


Tuberculosis within the cranial cavity assumes one of four forms, the most frequent being a disseminated leptomeningitis, which proves invariably fatal within a few weeks. Of the other three forms, the first consists of a solitary tubercle, originating in the pia, but extending into the cortex and simulating in appearance a chronic pyogenic abscess. The second group is made up of more or less discrete tubercles scattered along the branches of the pial vessels, especially in the neighbourhood of the Rolando and Sylvian fissures. The third type, so-called méningite en plaque tuberculose is seen only in adults and bears a close resemblance to carcinoma or endothelioma. In a case of this sort studied over a period of five years by the authors the course of the patient’s illness was characterised by the definite Jacksonian quality of the convulsions, ushered in first by sensory symptoms and then a definite tonic spasm. Apparently because of the very superficial cortical involvement, disturbance of reflex action was slight and variable.

Necropsy disclosed the presence of a large flat plaque, 9 cm. long and 8 cm. wide, firmly adherent to the dura mater, and covering a large area in the left frontoparietal region. No calcified or softened areas were discovered, the mass appearing quite avascular with no evidence of old haemorrhage. Microscopically, it showed a dense hyaline fibrous reticulum, containing innumerable tubercles. These varied in character and age from fibrous ones near the surface to typical active tuberculous lesions with a caseous matrix, Langhans giant cells, and a peripheral border of endothelial and round cells. The round cells were especially numerous in the deeper layers of the pia, and in some sections a distinct separation of it from the cortex was evident, showing the tuberculous granulation tissue almost entirely limited to the meninges. Within the sulci there were fewer tubercles, and the exudative reaction was moderate. In sections from the thickest median portion there was no line of demarcation, and the cortex was extensively invaded. No tubercle bacilli were found.

R. M. S.


This is a record of the pathological investigation of the brains of eleven cases of postencephalitic Parkinsonism, together with a short review of some of the previous German and French work on the subject.
Widespread cellular degeneration was present. It was of different types but most often fatty. The substantia nigra was most severely affected and to the degeneration in this area the Parkinsonian rigidity is attributed. In all parts the glial reaction to the degeneration of nerve cells and fibres was slight. The cellular infiltration was usually only perivascular but in some cases there was diffuse infiltration with lymphocytes and plasma-cells and small glial cells. The process is regarded as one of chronic progressive inflammation.

Placing the structures in order of the degree of involvement the list is: substantia nigra, putamen-caudate, globus pallidus, midbrain ganglia, nucleus dentatus, cerebral cortex, medulla, cord. The affection is so widespread that any localisation of function from the symptoms can only be very tentative.

J. P. M.


The author describes nerve-cell degeneration of a chronic type in the basal ganglia of four advanced cases of general paralysis, and suggests that this is concerned in the origin of the speech disturbance, the expressionless facies and the fine tremors seen in this disease. As, however, degenerative changes of the types described by the author are present in every part of the nervous system in general paralysis deductions of this sort can have no value.

R. M. S.


The results of malarial treatment of general paralysis differ from those of other forms of treatment, not only in being followed by a larger proportion of remissions, but also by the exacerbations which are apt to be the immediate sequelæ of the treatment. These exacerbations are associated with symptoms unusual in general paralysis, such as hallucinations and delirium. Side by side with this clinical change in the type of the disease there are alterations in the pathological anatomy. Sträussler and Koskinas have shown in previous papers that during a remission after malarial treatment the cortical changes were so slight that without knowledge of the previous condition of the patient the diagnosis would have been impossible. This reduction of the pathological changes to a minimum has occasionally been observed in natural remissions which were unusually prolonged, but whereas in natural remission it is an exception after malarial treatment it appears to be the rule.

In cases terminating fatally during treatment or during exacerbations immediately following treatment, there was a quite different pathological picture, showing exacerbation of all the pathological processes, enormous infiltration of the finest vessels, larger numbers of rod-cells, etc. In addition,
unusual pictures such as the appearance of plasma-cells outside the perivascular spaces, and of mononuclear phagocytes in the pia mater were found. Occasionally small 'knots' were seen which the authors considered to be miliary gummata.

Gerstmann, confirming these observations, interpreted the exacerbation of the processes as the expression of a fiercer attack by the mesodermal elements against the spirochaetes. Kirschbaum's work confirmed that of the others. He found malarial granulomata in cases which had been treated with tropical malaria.

Gurewitsch has examined 12 new cases in which death occurred at periods varying from 13 days to nine months after the beginning of malarial treatment. Of these cases two (dying 20 and 32 days after the beginning of treatment) showed the usual pathological picture in a severe form. In the other ten the picture was atypical. In some, lymphocytes greatly outnumbered plasma-cells in the perivascular infiltrations; in others, structures resembling miliary gummata were found. In still others there were localised softenings in the cortex; collections of spirochaetes in their neighbourhood suggested that they were areas of very acute syphilitic encephalitis. The degeneration of plasma-cells and the enormous quantity of degeneration products and pigment round the vessels suggested that the cortex had begun to free itself from the paralytic process, but had not completed the work. In three cases the frontal cortex had been cleared of disease, which, however, was still rampant in the basal ganglia or the temporal lobe. When localised in the basal ganglia it was associated with katatonic symptoms and when in the temporal lobe with hallucinations.

The author concludes that the changes found in general paralysis after malarial treatment indicate an exacerbation of the fight between the mesodermal elements and the spirochaete—a fight which may end in the illness running a more severe course, but which sometimes results in a cure.

J. G. Greenfield.

[187] Experimental studies in parasyphilis (Experimentelle Studien zum Meta-


In a previous series of experiments Hoff and Pollak had found that the injection of the cerebrospinal fluid from cases of general paralysis into the thecae of dogs gave rise to changes in the cerebrospinal fluid of the animals, such that henceforth their fluids gave all the reactions of general paralytic fluids. In the series of experiments described in this paper fluids from cases of tabes were similarly injected into the thece of dogs. No permanent changes in the fluids of the animals resulted; whether the cases of tabes were active or appeared stationary the results of the experiments were uniformly negative.

J. P. M.