bart, who is supposed to have flourished at the time of Frederick the Great, and who, in a well-known German students' ditty, gives a frightful account of his heroic exploits, of which the following—in very free translation, I am afraid—may give you an idea:

At Potsdam I trepanned, just hear,
Great Fred'rick's cook, to him so dear.
I poleaxed his devoted head:
No wonder that the cook is dead.

I certainly prefer the Mikado's principle, and I hope that Dr. Eisenbart is not likely to find many emulators amongst contemporary surgeons!—

With the expression of this hope, gentlemen, I conclude my lectures. Nobody can be more conscious than I am that I have brought forward nothing new, and that I have repeated in almost identical words much that I have said on previous occasions. But I honestly believe that such repetitions sometimes are required and may do good. Cato may have been, and probably was, a terrible bore with his eternal *Ceterum censeo*, but after all he thereby advanced his cause and ultimately obtained his purpose.

If I could venture to hope that by my warnings against excessive zeal and over-operating on the one hand, by my insisting on effectively operating on the other, I had advanced the good cause I have at heart, I should be perfectly willing to enrol myself on Cato's side.

ON SOME SYMPTOMS PRODUCED BY TUMOURS OF THE OPTIC THALAMUS WITH A CASE.

By J. MICHELL CLARKE, M.A., M.D., CANTAB.,
F.R.C.P. LOND.,

Professor of Pathology, University College, Bristol, and Physician to the
Bristol General Hospital.

In some cases of tumour of the optic thalamus a group of symptoms occurs which is of value in diagnosis. These symptoms were present in the case now reported and in one published in the *BRITISH MEDICAL JOURNAL* in 1891. In both cases, occurring fairly early and lasting for some time, there were (1) a sensation of heat or burning in the opposite upper extremity, (2) a marked intentional tremor in the same limb, absent during rest, and exactly resembling during movement the tremor of disseminate sclerosis, (3) hemiplegia of the opposite side of gradual onset, affecting the upper extremity only for a considerable time and predominating in this limb throughout. These symptoms must, of course, be taken in conjunction with the others present in making the diagnosis. The predominating paralysis of the opposite upper extremity is mentioned in 8 and movements of this limb in 6 out of 10 reported cases in which the lesion was fairly confined to the thalamus.¹

Instead of an intentional tremor there may be movements of a choreiform type or like those of post-hemiplegic chorea. In the subsequent progress of the case the paresis extends to the leg of the same side, and later this limb may also be affected with tremor, later still the paralysis develops into definite hemiplegia with the limbs in the ordinary hemiplegic position; spasmodic rigidity is generally marked, and as this becomes pronounced it abolishes the tremor of the earlier stages. Hemi-anæsthesia may also be present but is by no means constant or absolute in degree.

With regard to the intention-tremor, this is also met with in tumours in two other situations in the brain, namely, in the cerebellum, and in the corpora quadrigemina. In tumours of the cerebellum the tremor does not seem to be so frequent as the results of experiment would lead one to expect; in this case, also, it especially affects the upper limb.² In any case, therefore, in which this symptom is present the differential diagnosis between a tumour of the optic thalamus, corpora quadrigemina, or cerebellum has to be made; but in most cases this could be done from the accompanying symptoms, as the signs—which I need not go into here—of a tumour in each of these situations are sufficiently distinctive.

In addition to the symptoms given above, another, said to be characteristic of lesions of the thalamus, but apparently not invariably present, is a loss of the emotional movements of the face, whilst the voluntary are preserved. In the

present case the want of expression in the features was very marked. Early loss of control over the sphincters does not seem to be, as has been stated, a frequent symptom in tumours of the thalamus. When the growth extends backwards the nuclei of the third nerve will be involved. Mental dulness or slowness, present in the later stages, or even early in the illness, is probably connected with the great distension of the lateral ventricles which occurs.

In the case now reported it is remarkable that the three cardinal symptoms of intracranial tumour—severe headache, vomiting, and optic neuritis—were absent from first to last.

In the early stages the absence of these cardinal symptoms, with the patient's age, and the marked intentional tremor, made the case resemble an irregular one of disseminated sclerosis, and at first this was considered to be the most probable diagnosis.

The notes of the case are as follows:

The patient, a painter, aged 19, was first seen on October 25th, 1899. He had had no previous illness, and there was no sign of plumbism.

History.

The present illness began with diplopia twelve months previously, followed by deviation outwards of left eye eight months later, burning pain in left arm and hand a month afterwards, and impairment of fine movements of left hand and fingers; for example, in picking up a pin, but not of coarse movements—for example, lifting a heavy weight.

Condition on Admission.

He was well-nourished, intelligent. There was a marked absence of facial expression. The abdominal and thoracic viscera, and the urine were healthy. No headache, no vomiting, no giddiness; no affection of special senses, nor of organic reflexes. Speech slow and deliberate, but distinct. Gait normal; walked well with eyes open or shut.

Eyes.—There was right ptosis and right external strabismus; movement of both eyes upwards very defective, and the left eyeball hardly moved at all downwards. There was slight horizontal nystagmus when the eyes moved into either canthus. The right pupil was somewhat larger than the left; both reacted sluggishly to light and to accommodation, and the consensual reaction was absent. The optic discs and fundi were healthy. There was slight loss of sensation to touch but not to pain (pin-prick) over left side of head, neck, trunk, left upper extremity, and left leg. Muscular power good, but muscular sense in left hand impaired. He could not distinguish between different weights, which were easily recognised by the right hand. Dynamometer right hand, 56 kilos; left hand, 45. Knee-jerks equal and normal; no ankle clonus; superficial reflexes normal.

After-History.

Shortly after this date the left arm began to show marked intention tremor and lack of co-ordination on movement, which steadily increased. Condition in July, 1900.—No headache or vomiting, cramping pains in left arm.

Eyes.—Fine horizontal nystagmus. Pupils dilated, equal, react badly to light and accommodation. Paralysis of right third nerve; partial paralysis of left third. No optic neuritis; outer half of each disc pale; moderate concentric contraction of visual fields.

Sensation.—Partial left hemianæsthesia.

Motion.—Left hemiplegia: the arm being most affected; marked intention-tremor, entirely ceasing during rest, of this limb; some ataxy of the left leg in walking.

Reflexes.—Left knee-jerk increased: left plantar gave extension of toes; other reflexes normal. Intelligence good; speech slow, words slurred, and often indistinct.

October, 1900.—In addition to above, paralysis of both third nerves and (?) of both fourth nerves. Both knee-jerks exaggerated; left ankle-clonus; drowsiness and giddiness.

January, 1901.—Very drowsy, but intelligent, though slow in answering; speech slow, slurred; occasional incontinence of urine. Left anæsthesia complete; left arm and leg completely paralysed, contracted and rigid, with movements in arm like athetosis. Some numbness and slight tremor in right arm; double ankle clonus. From this time he was helpless, constantly asleep, with incontinence of urine and faeces, albumin appeared in the urine and there was knee and ankle clonus in both legs; the other symptoms remained as above. He died on March 4th.

Necropsy.

On removing the brain the only sign of disease externally was a swelling of the right crus. Vertical sections of the brain were made from before backwards and hardened in formalin. A tumour was found occupying the right optic thalamus, and extending downwards and backwards into the subthalamic region where it invaded the opposite side and pressed on the right internal capsule and crus cerebri, especially the right crus. It did not extend into the pons. The anterior end of the tumour was at about the level of the middle commissure in the mesial nucleus of the optic thalamus; passing backwards it occupied nearly the whole of the thalamus except its outer layer, and its posterior end (pulvinar) which were not involved. The third ventricle (posterior end) was pushed over to the left. The growth then passed downwards, involving the subthalamic region, red nucleus, and pressing on internal capsule on right side, and a little further back extended also into the left subthalamic region, invaded and partly destroyed the crus on the right side, and pressed upon it on the left: the nucleus ruber on the left and partly on the right side, and the grey matter of origin of the third nerves were replaced by the growth, which also compressed the aqueduct of Sylvius. The corpora quadrigemina were flattened and displaced upwards by the tumour. The tumour was well defined, and marked off from the surrounding brain structures by a definite margin; it was firm in consistence, and measured in its largest part, which was situate just behind posterior

commissure for about half-an-inch antero-posteriorly, $\frac{1}{4}$ inch in both the vertical and transverse diameters. It was a round-celled sarcoma. The lateral ventricles were much distended with clear fluid owing to the pressure on the aqueduct.

Fig. 1. Frontal anterior part of tumour, section passing through middle commissure

Fig. 2. Section through largest part of tumour.

Figs. 1 and 2 indicate the position of the growth. Sections of the pons, medulla, and upper cervical cord showed degeneration of the pyramidal tracts, by far most marked in the tract from the right hemisphere. In sections stained by Marchi's method there was a well marked and definitely limited degeneration in the left cerebellar peduncle. This degeneration could not be traced on the right side.

This finding is of interest as showing the presence of fibres in the peduncle passing towards the cerebellum, and also in connection with the marked intention tremor in the left arm and to a less degree in the leg.

With regard to the causation of this tremor or of choreiform movements in the cases under consideration there is first the fact that of all cases of intracranial tumour they are pre-eminently found in tumours of the optic thalamus, corpora quadrigemina, and of the cerebellum. Of the explanations hitherto advanced Professor Ferrier in writing of tumours of the corpora quadrigemina,³ states, "in all cases in which tremors were observed the lesion was not confined to the corpora quadrigemina, but implicated also the optic thalamus, tegmentum cruris or frontis, or superior cerebellar peduncles. . . . In this connection it is worthy of note that Turner and I have described similar tremors as resulting from section of the superior cerebellar peduncles in monkeys. . . . If the tremors observed in clinical cases are in reality due to lesion of the superior peduncles, one might explain the crossed tremor in unilateral lesion by affection of the cerebellar peduncle above its decussation."

The other explanation of the tremors is that given by Dr. Sharkey, that they are due to pressure upon the pyramidal tract.⁴ The symptoms certainly follow the sequence given by Dr. Sharkey, namely, tremors, paralysis, rigid contracture, and, as in a tumour of any size in these regions, the pyramidal tract would be affected, it is difficult to speak with certainty.

But I think that, seeing that these tremors specially occur in tumours of optic thalamus, corpora quadrigemina, and, to a less degree, of cerebellum, the balance of evidence is in favour of their being due to implication of the superior cerebellar peduncle, the course of events being that the tumour first affects the peduncle, and later in the course of growth presses upon and more or less destroys the pyramidal tract in the internal capsule, crus, or pons, and that thus the tremor appears first, but later disappears owing to the supervention of more complete paralysis and of spasmodic contracture. Further investigation is required as to the implication of what special fibres of the superior cerebellar peduncle the tremor is due.

REFERENCES.

¹ Brain, 1898, p. 311; ² Ferrier, Albutt's *System of Medicine*, vol. viii, p. 372; ³ Loc. cit., p. 340; ⁴ Spasm in Chronic Nerve Disease, Goulstonian Lectures, 1886.

ENTERIC FEVER COMMENCING WITH AND COMPLICATED BY AN ATTACK OF INFLUENZA.

By J. COUBRO POTTER, M.D.,
London.

ENTERIC fever in the early stages is often difficult to diagnose in consequence of its insidious onset and the different disorders the early symptoms simulate. The following case is an example, where the early enteric symptoms were entirely masked and the disease not recognisable until about the eleventh or twelfth day of the illness. It is very uncommon and also a difficult thing to prove that two fevers can occur at the same time in a patient; but in this case the attack of influenza modified the course of the temperature usually met with in ordinary enteric cases, it being intermittent and remittent for the first ten days, and then the typical typhoid temperature continued. No doubt the high temperature, and the intermittent and remittent character lasting for ten days, was due to the two fevers acting together, and that it was only when the influenza poison was exhausted that the true typhoidal character was revealed. When I first visited the patient she complained of shivering and feeling feverish, pains in her head, back, and limbs, a tendency to sickness. These symptoms had come on suddenly; she stated that for the last week or ten days she had not been feeling very well. On examination no physical signs were to be detected in the chest; all the other organs were normal. The above symptoms continued for the next few days. Bowels were constipated; slight tenderness on palpation over the stomach. Patient had repeated rigors, and profuse perspiration was observed with each fall of temperature. On the seventh day a rash appeared on the abdomen, and this continued to come out in crops. The abdomen was swollen and tympanitic. On the eleventh day diarrhoea set in, the stools being pea-soupy and very offensive. The blood was examined and was distinctly of enteric character. On the seventeenth day great pain in the head was complained of; this gradually got worse, the temperature going up. The patient showed signs of acute meningitis, became delirious, and died on the nineteenth day. Temperature 107.6°.

The following should be noted: Previous to the illness the patient had been visiting in a house where influenza was present. There was an entire absence of physical signs in the chest, but marked gastric symptoms from the commencement, common to both complaints. The absence of any symptoms pointing to internal suppuration, which might have accounted for the early temperature. The peculiar intermittent and remittent temperature for the first ten days, this form of temperature not being typical of either disease, but probably caused by a combined action of both fevers. On the twelfth day a typical typhoidal temperature began to be registered, starting at 103.2°, which temperature in an ordinary case of enteric would probably be registered about the twelfth day of the disease. The present attack was now at the twelfth day.

The above facts distinctly point to the conclusion that both fevers commenced to attack the patient about the same time, and were acting for a time together, producing the abnormal temperature which was observed at the commencement, and which made the early diagnosis of enteric fever impossible.