

organized by the hæmorrhage and the fourth ventricle filled with it.

Sections through the cerebellum showed nothing except sub-arachnoid clot between the folia.

Thorax. Lungs.—Both showed old pleuritic adhesions, and were congested, but otherwise healthy. The heart was large and fattily loaded. On section the muscle of the left ventricle was firm and very much hypertrophied. The valves were all competent and healthy. The mitral valve showed somewhat gelatinous thickening, but was probably quite competent, and was not stenosed.

Abdomen.—The abdominal viscera were generally healthy. The liver was small, but quite healthy. The spleen small and congested, but healthy. The kidneys were both small, but healthy.

Weight of organs in ounces (avoird.):—Encephalon, $40\frac{1}{4}$; heart, 12; right lung, 16; left lung, 14; liver, $32\frac{1}{2}$; spleen, $2\frac{1}{2}$; right kidney, 4; left kidney, $3\frac{1}{2}$.

This case is instructive as showing the great difficulties in exactly diagnosing the seat of sudden cerebral lesions, and but from the fact of the sudden arrest of respiration at the commencement of the attack while the heart continued to act, though feebly, the case might very readily have been put down as one of syncope, especially as the paralysis, being total, did not materially differ from the collapse and muscular relaxation met with in sudden failure of the heart's action, and hence was not *per se* destructive. As is usual in pontine lesions, the pupils were not unequal. As regards the primary lesion, the probability is that at 8 a.m. a hæmorrhage took place in the pons near the centre of respiration, and thus producing sudden arrest of this function, and that a fresh outburst occurred at 8.30 when the second collapse occurred; that it broke through into the fourth ventricle, filling it, and then passed up the iter a tertio ad quartum ventriculum, through the foramen of Munro, along the choroid plexus, into the lateral ventricles, the choroid (velum interpositum) conducting it farther through the great transverse fissure of Bichât to the sub-arachnoid space outside the brain. In consequence of the disorganized state of the pons from the extent of the hæmorrhage, the exact vessel ruptured could not be made out.

Here, as usual, the physical conditions necessary for cerebral hæmorrhages were very favourable, advanced atheroma of the cerebral vessels and hypertrophied left ventricle.

Case of Cerebral Tumour (Fibro-Cystic).

E. D. or R.; female; æt. 40; married; Protestant. Duration of illness a few days. First attack; cause not known. Is not epileptic, but is suicidal and dangerous. Admitted June 2nd, 1887.

Patient's husband stated that for a year before admission she had been given to wandering about in an aimless manner, and had not attended to her household duties, apparently because she could not settle her mind to her work. Her mother is reported to have been insane at or just after patient's birth, and a cousin was insane after the death of one of his children. Patient has had three children; youngest ten months old.

On admission she showed great mental weakness; had a great hatred of her husband, declaring he abused her, had brought her to a house of ill-fame, and talked in a generally excited and silly manner. She had recently left the house with her child, remained out till two o'clock in the morning, and declared she would drown herself. No great alteration in the case took place until about the month of October, when symptoms of general paralysis appeared, and by April 9th, 1888, these had gradually and steadily advanced. Patient was now frail, and mentally getting more and more fatuous. By February 27th, 1889, paralysis had to a considerable extent become arrested, and mentally patient had somewhat improved; and by December 2nd, 1889, the report in Case Book was: "No great change physically; mentally clearer." From about this date, however, patient's power of locomotion deteriorated, very often having to assist herself along by holding on to wall of room, and at times complained of giddiness; and when visited by her husband about a fortnight before death her gait was so affected that she had to be seen in ward instead of being brought to waiting-room. For the last three months patient had occasional attacks of this giddiness about once a week, when she would fall down on the floor and require to be assisted up, the attack lasting about ten minutes, without loss of consciousness and without any convulsive symptoms. Beyond this no further alteration took place till March 1st, 1890, when, at 3 a.m., she was found by night attendant breathing heavily, with slight foaming at the mouth and semi-comatose. Continued in this state till visit at 10 a.m., when she seemed coming out of coma; had P. Ric. March 2nd, at 11 a.m., was rather better, more conscious, and had taken good breakfast; but from the time of the fit her legs were completely paralyzed, and could not even sit up in bed. Her arms, however, were not affected. She remained in this condition till the evening of the 7th March, when she recovered power over her lower limbs, to a certain extent being able to stand, and even walk along with the aid of support. In the forenoon she was excited, abusive, and wishing to get out of bed, but at that time was unable to stand. She had thus recovered power in her limbs between 11 and 7 p.m. She was visited by the night attendant at 12 midnight, 2 a.m., and 4 a.m., on all of which occasions she was talkative, and even seemed more lively than usual; but on the next visit, at 6 a.m., she was found half turned over on left side, quite dead and stiff. Whole body discoloured and livid; tongue protruding between

teeth; jaws firmly closed. Considerable moisture on left side of face, all pointing to death from severe convulsive fit. From the condition of the body, death must have occurred very shortly after 4 a.m.

The following is the record of the post-mortem examination made at 9 a.m. on March 10th, carefully extended by Dr. James Cameron:—

General.—Body very obese and abdomen very prominent. Rigor mortis considerable in lower extremities; almost absent in upper limbs and neck. Tongue protruded slightly between teeth, and small quantity of froth extruded from mouth. Hypostasis slight over dorsal region and of pink colour; most marked over mammæ and face. Pupils medium size and equal.

Head.—Scalp very thick and readily separable from calvarium, which was very thin; of uniform density in section. In some places very much attenuated; as in the temporal regions, and very easily sawn through from the general softness of the bone. Calvarium not adherent to dura mater. The dura mater showed nothing but congestion and erratic pacchionian bodies over the antero-frontal region. The general view of the encephalon after removal of the dura mater showed the arachnoid dry, congested, and with a peculiar greasy appearance and touch. There was no sub-arachnoid fluid at the vertex. The pacchionian bodies were fatty rather than fibrous. The brain was found to be slightly adherent over the ethmoid plate and in the anterior part of the middle cranial fossæ. On cutting through the attachment of the tentorium to the ridge of the temporal bone on the right side a globular tumour was found situated between the right half of the tentorium above, the wall of the petrous bone on the outside, and the right lobe of the cerebellum beneath, which latter projected a little way in front of the under surface of the tumour. The cerebellum, from the pressure of the tumour, seemed atrophied to about two-thirds of its normal size. The tumour was spherical, of fibro-cystic character, and two inches in diameter, and encapsuled by a fibrous layer, which took its origin from the junction of the tentorium and edge of the petrous bone in the form of a small pedicle. The growth was, therefore, quite extrinsic as regards the brain substance.

The cerebrum on section was found to be greatly reduced in consistency in the posterior half, so that the left posterior cornu of that lateral ventricle was torn into on removal of the brain. The grey matter was pale, narrow, ill-defined, and the layers not differentiated. The white matter showed numerous puncta, which were of remarkable size, considering that the cerebral arteries were not atheromatous. The cerebral tissue of the occipital lobes was almost diffluent.

The lateral ventricles were greatly dilated, but showed no granulations, and probably had been distended with fluid which

had escaped. Section through the basal ganglia revealed nothing abnormal except general want of definition.

The fourth ventricle, pons, and medulla showed nothing abnormal. The arachnoid was readily separable, and the cerebral arteries, as a whole, quite healthy. The base of the skull showed curious digital depressions, probably from atrophy in the anterior and middle fossæ, and where the arachnoid had been adherent. The torculum, on being cut into, allowed the escape of about $\frac{1}{2}$ oz. of dark fluid blood, probably due to the tumour compressing the lateral sinus of the right side. About 6 oz. of sero-sanguineous fluid escaped during the removal of the brain, of which the major part was derived from the lateral ventricles by the rupture of brain substance already mentioned.

Thorax.—The pleural cavities were dry, and there were no adhesions. Both lungs were quite healthy, but much congested. The pericardial sac was dry. The heart was fattily loaded, empty and flabby. The valves were all healthy, but the valve apertures large from want of cardiomuscular tone. The inner half layer of the left ventricle was fattily degenerated, and the cardiac muscle, as a whole, soft and flabby.

Abdomen.—Viewed *in situ*, the abdominal contents were normal. Liver of moderate size, congested, and fatty. Kidneys congested, but healthy. Spleen large, firm, and congested. The uterus showed several small, fibrous tumours. The right ovary was cystic; the left was more healthy, and showed corpora lutea from recent ovulation six weeks ago. Bladder empty.

Weight of organs in ounces:—Encephalon, *in toto* with tumour, 59; cerebrum, 48; cerebellum, medulla, pons, and tumour, 11; tumour, $4\frac{1}{4}$; heart, 10; right lung, 24; left lung, 20; liver, 56; right kidney, 6; left kidney, $6\frac{1}{4}$; spleen, 8.

From a careful consideration of the whole case it would appear that the gradual progressive paralysis in this case was not due to the presence of the tumour, but to the softened condition of the brain; but the attack of giddiness and sudden loss of power following these attacks were in all probability due to its presence. The tumour had probably been existent for several years, for although the giddy turns only showed themselves while patient was in the asylum during the last three months of her life, reference is made to patient having had "fits" in one of the medical certificates on her admission; and her husband, on being questioned since her death, describes them as similar to those above described. No very definite information, however, could be elicited in regard to them.

PHOTOGRAPHS TO ILLUSTRATE DR. CONOLLY NORMAN'S PAPER.

- FIG. 1.—Shows the general structure of tumour, spindle shaped, nucleated cells, arranged in bands and nests. Small indistinct hyaline body in lower right hand corner— $\times 170$.
- „ 2.—Body intermediate between hyaline globe and cell nest: distinctly cellular in centre: laminated hyaline externally— $\times 300$.
- „ 3.—Small hyaline bodies with traces of nuclei: lamination not clearly distinguishable— $\times 170$.
- „ 4.—Two large hyaline bodies, each showing two centres for concentric arrangement of laminae— $\times 170$.

These excellent reproductions have been executed by the WOODBURY COMPANY, from negatives which my kind friend, Dr. J. ALFRED SCOTT, Professor of Physiology, R.C.S.I., was so good as to make for me. The sections from which Nos. 1 and 3, were taken, I stained in Bismarck Brown; 2 and 4, in Logwood.

C. N.

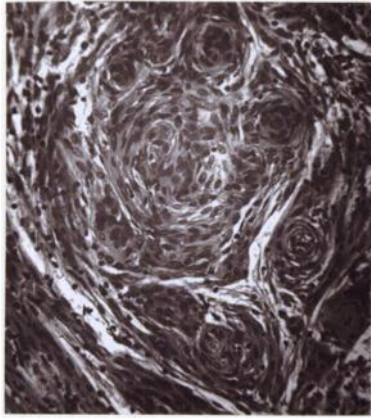


Fig. 1.

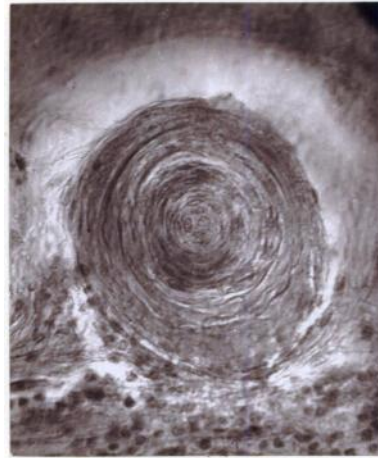


Fig. 2.

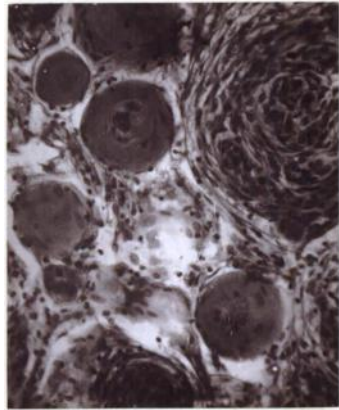


Fig. 3.



Fig. 4.

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