THREE CASES
OF
INJURY TO THE BRAIN.
WITH
AN APPENDIX OF CASES.

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IN this communication I propose to direct attention, first, to the frequency with which convulsions or rigidity are associated with paralysis of the left side of the body as compared with that of the right; secondly, to the occurrence of these symptoms in cases of injury or disease of those parts of the right cerebral hemisphere which lie above the corpus striatum.

In two communications to 'St. Bartholomew's Hospital Reports' I have related cases in which various convulsive seizures were associated with disease of the membranes of the brain, and especially with disease about the course of the middle cerebral arteries.¹ These vessels are surrounded by the chief branches, within the cranium, of the vaso-motor nerves, and irritation of these is not unlikely to affect the

¹ Vols. iii and v.

calibre of the vessels supplying the brain, and, consequently, the circulation through its tissue. That any such irritation may so influence the nerve tissue as to shock it into allowing or producing purposeless movements in the muscular system is by no means improbable.¹ The curious fact that of all aneurisms of the brain arteries those of the middle cerebral seem especially to give rise to convulsions tends to corroborate this assumption.²

It is further clear that a sudden escape of blood into the ventricles or into the cerebral tissue may occasion a passing convulsion, from the shock suddenly inflicted on the brain; but of such hæmorrhages I pointed out that those connected with left-side paralysis and with injury to the right hemisphere, external to the optic thalamus and corpus striatum, were, in an exceptional manner, followed by convulsions, and that this held good also for disease, as distinguished from the laceration produced by hæmorrhage, of the same parts of the cerebrum.

Collecting from the papers referred to the cases of disease or injury to any one portion of the substance of the encephalon, excluding, that is to say, the surface and the ventricles, in which one side of the body was, as a consequence, in part or entirely paralysed, I obtain the following results :

Right-side paralysis	.	.	.	.	8 cases.
Convulsions in	.	.	.	.	1 case.
Left-side paralysis	.	.	.	.	15 cases.
Convulsions in	.	.	.	.	7 cases.

The case of right-side paralysis with convulsions was one of abscess involving the posterior lobe of the left cerebral hemisphere, and the convulsions were probably due to pressure on the opposite (right) hemisphere. Speaking generally, the symptoms attending abscess or tumour of the brain are

¹ Lecat and Wickard wrote of spasm of the nerves and arteries of the brain as "apoplexia convulsiva."

² Op. cit., vol. iii, p. 426. Dr. Hughlings Jackson has referred to the same interesting fact. See 'London Hospital Reports,' vol. i, 1864; and 'A Study of Convulsions,' p. 37.

most perplexing, but we have evidence in support of this proposition. Thus, I have recorded a case¹ of abscess in the left hemisphere with convulsions, caused probably by pressure on the opposite side, as the patient suffered from left hemiplegia; and Dr. Church has figured² a brain section showing the effect produced by a tumour in the left hemisphere on the substance of the opposite (right) mantle, which is reduced one third in width, and in this case convulsion seems to have been the most marked symptom caused by the compression of tissue.

In eight cases of left-side paralysis not followed by convulsions the corpus striatum, optic thalamus, and the pons, were the parts affected. The tissue outside these, which is in proximity to the middle cerebral artery, and which contains the great branches of this artery dividing to be distributed through the hemisphere, and forming in this region a great vascular zone, was the part injured in the cases attended with convulsions.

What the precise nature or seat of the derangement may be which so affects the brain tissue as to give rise to the symptoms known as convulsions, it is certainly not very easy to determine; but I now propose to advance further data, which, if no precise deduction can be drawn from them, will at least introduce a subject of interesting speculation.

Since my attention was drawn to this subject in making an analysis of the cases which had been examined by the late Dr. Kirkes or by myself at St. Bartholomew's Hospital, several instances have come to my knowledge pointing to some part of the right hemisphere as being thus especially connected with the occurrence of convulsions. I saw, for example, a case of apoplexy of which I was told that the patient had right-side paralysis, with convulsions affecting chiefly the left side of the body. But on examining the patient more carefully, the medical gentleman in attendance found that the left side was the one paralysed, the patient having some power over the right, so that the arm, when

¹ 'St. Bartholomew's Hospital Reports,' vol. iii, Case 48.

² *Op. cit.*, vol. v, p. 208.

raised, was kept in that position, or was moved towards the face. This second examination was made in my presence, because I raised the question as to which side was paralysed in connection with the occurrence of the convulsions. Some time ago there was a sailor in Darker Ward, under the care of Mr. Paget, for a history of whose case I am indebted to Mr. Bloxam, one of our surgical registrars.

CASE 1.—T. L—, æt. 27, sailor. Admitted March 8th, 1870, died March 17, 1870.

History.—December 3rd, 1863, about six years ago, at New York (having been previously in robust health), he received a blow on the right side of his head, which fractured his skull. Whilst under treatment for this injury in the Bellevue Hospital matter formed under the right parietal bone, and one month after the original hurt he was trephined, and about three quarters of an ounce of pus escaped. After this operation he is said to have remained insensible for two months, and subsequently to have lost his sight.

Three months and eleven days after the injury he suffered from his first convulsive seizure, and after recovering from this his left arm was paralysed, and his left leg was weak. During the next two or three months he had repeated convulsive seizures at intervals of about fourteen days, and then for about two months he appears to have been comparatively free from their recurrence.

In August, 1864, the parietal bone was dead, and Mr. Paget removed a portion of the skull, six inches by three and a half,¹ having a circular opening about its middle. Shortly after, within three weeks, the fits returned. Thus far he had been only partially paralysed, but after an injury on March 3rd, 1866, he lost all power over the left side, and from this date the fits ceased to trouble him. (I may here mention that about this time he had been under the care of Dr. Hughlings Jackson, at the Hospital for the Epileptic and

¹ The vault of the skull is in the museum of St. Bartholomew's Hospital. The part which necrosed consisted of the right parietal and the adjacent side of the frontal bone.

Paralysed.) The convulsions which have been referred to seemed to begin in the left hand and arm, and then extended to the entire side, and almost immediately to the right.

One week before his admission, whilst drunk, he fell on his head, and the next morning he found a swelling on the right side of the skull, which had since steadily increased in size.

Condition when admitted.—On the right side of his head, about the centre of the parietal region of the corresponding side, was a hernia cerebri about the size of a small orange, soft and pulsating, and narrowing towards the opening through which it protruded. A quantity of clear fluid drained away from around it. He was restless and irritable, but he replied to questions, although his speech was not very distinct. At night-time and during the day he wandered, continually talking. His pulse was rapid, and, after a severe rigor on March 11th, his temperature rose to 101.2° . He was blind with the left, but had slight vision with the right eye. The left-side paralysis persisted, but there were no convulsions.

After recurrence of the rigors he became more restless and noisy, so that he had to be removed to a separate room; he gradually grew insensible and died.

Post-mortem.—There were no changes worth referring to, with the exception of those which involved the contents of the skull. The arachnoid and pia mater were thickened about the margins of the opening through which a portion of brain had protruded, and where bone was deficient these membranes and the dura mater adhered to scalp and scar tissue. At the base there was thickening of the visceral arachnoid and of the pia mater about the course of the basilar and internal carotid arteries, and, speaking generally, in all that space included by the circle of Willis. This thickening, evidently the result of long-passed effusion, was sufficient to involve and compress the optic commissure and the optic nerves within the skull. It did not extend along the course of the middle cerebral branches.

The upper portion of the right hemisphere,¹ from which the hernia extruded, was softened to the level of the corpus callosum. This softening, in places amounting to fluidity of the brain tissue, extended through the entire width of the mantle, and in front reached to within one inch of the anterior extremity, whilst behind it was two and a half inches from its posterior limit. Below the level of the corpus callosum it was traced into the island of Reil, and also through the corpus striatum to the right cerebral peduncle. Lastly, the arachnoid generally was the seat of recent inflammation with some effusion of lymph.

In this very interesting case the following appears to me to be the explanation of the varying symptoms. First, the man suffered from meningitis, intensified in the right parietal region, whence the pus was let out by trephining. The post-mortem showed the thickening of tissue which resulted from this inflammation, the chief effect of which was by subsequent contraction to cause compression of the optic commissure and nerves. Secondly, the brain tissue, where it had been damaged by compression from the collection of pus, became gradually disorganized, and during this disintegration the period characterised by the occurrence of convulsions belonged and the left-side, paralysis was incomplete. Thirdly, after a further injury in 1866 the left-side paralysis became confirmed, and the disease now extended from the outlying fibres to the corpus striatum, and, the root of the fibres being thus involved, and the whole system of the hemisphere being shut off from its connection with the structures below the crus cerebri, the convulsions abruptly ceased. Fourthly, the immediate cause of death was the rupture of the scar tissue leading to the hernia cerebri, and causing general inflammation of the membranes of the brain.

There have recently been under Mr. Paget's care in Kenton Ward two cases which he is so good as to allow me to report,

¹ This, with the adherent scalp, is in the museum of St. Bartholomew's Hospital.

both of which I saw with him whilst they were under treatment, and respecting which, from the attendant symptoms, I ventured to diagnose that the brain was injured about the right middle lobe in some part external to the corpus striatum, and in either instance the diagnosis was confirmed by the post-mortem examination.

CASE 2.—This and the following case are taken in part from notes by Mr. Bloxam.

J. S—, æt. 35, admitted December 1st, 1869, died December 5th, 1869.

History.—He had sustained an injury to the head by falling from a van. He was found insensible in the roadway and was removed to a police station, then to a workhouse, thence to his house, and at last, the following morning, to the hospital.

Condition.—He was insensible, moaning as he lay; the pupils were contracted; pulse 100; lower extremities lax and occasionally moved, chiefly the right one; upper extremities rigid. There was a wound on the left side of the head leading to the pericranium just behind the ear. There was no bleeding from either meatus auditorius.

Progress.—After the first twelve hours he began to have twitchings of the left arm and leg, but in other respects his condition remained as at first. On the fourth day, being on duty for Mr. Paget, I found him still insensible, but on calling loudly he seemed to hear and moved his head restlessly. The pulse had fallen to 76, and the respirations were now 34 in the minute and rather stertorous. The lower extremities were lax, and the right was moved occasionally, but the left was affected by sudden jerks, which recurred at short intervals of time. The upper extremities were rigid, each arm and forearm being flexed; the fingers were bent on the palms of the hands, and extension was resisted. As we watched him these extremities were repeatedly convulsed, the rigidity becoming more intense and then relaxing with a series of little shocks, but at no time did the arm become completely extended. There were no twitchings about the

face and no evidence there of paralysis. He gradually sank and died at 2 p.m.

Post-mortem.—Besides a fracture extending from the left side through the base of the skull, without depression, there was some blood between the dura mater and the bone in the left middle fossa, but not in quantity sufficient to cause material pressure on the brain. The surface of the brain, the pia mater, and the arachnoid, were apparently free from injury, except about the lowermost part of the right middle lobe, where a small quantity of blood lay over the brain surface, and thence into the substance of the brain, for a depth of nearly an inch, the tissue was largely lacerated by hæmorrhage, the disintegration spreading out over a space in this lobe about one inch and a half in diameter.

CASE 3.—J. P—, æt. 33, admitted December 28th, 1869, died January 4th, 1870.

History.—This man, whilst intoxicated, fell off his box and injured his head.

Condition.—When brought to the hospital he was insensible and blood was escaping from the left ear and from the nostrils. His breathing was laboured, but from this condition he presently rallied, when he could move all his limbs, was restless, and kept constantly getting out of his bed. His pulse was 72.

Progress.—He remained much in this condition, answering all questions and taking the food offered to him until the morning of the 31st of December, when the restlessness increased, and he was found to have lost the power of movement in the left arm, and after this he seemed to become somewhat drowsy, although he was still easily roused.

On the morning of January 1st, at 3 a.m., he had a series of fits with convulsions, occurring one after another, with intervals of about one hour. In these the left side was more violently convulsed than the right, and the body was arched towards the left. After the convulsion the patient sweated profusely. The pulse remained in the intervals between the

fits at 72, and there was still power of movement in the left leg.

He became more restless, and the convulsions recurred more often and lasted longer; in other respects he remained much the same until January 3rd. When I then saw him in several of his convulsive attacks the seizure commenced on the left side but almost immediately involved the right. The jaw was fixed, but the muscles of the face generally were spasmodically moved. The entire body was drawn to the left. The fits commenced with a rigidity of the muscles; the eye, for example, was drawn to the right side. The rigid muscles then relaxed, and the eye floated towards the left, and was then suddenly jerked many times in succession to the right side until, when the fit passed off, both eyes were turned towards the left. As I have elsewhere observed of similar cases, the pupils during these attacks remained fixed midway between contraction and dilatation. The pulse rose to 130, but in the intervals subsided to 72, when he sweated profusely. He then answered questions readily and took the food offered to him. There was no reflex action on the left side, but on irritating the sole of the right foot a fit immediately recurred. As time passed by, the convulsions ceased to involve the right, with the exception of the face, and were limited to the left side of the body.

The fits became more and more frequent, but he was yet sensible on the afternoon of the 4th, and would take nourishment, but his pulse rose to 120, he became greatly exhausted, and after a rapid succession of convulsions he died at 9 p.m. He seemed to retain some power over the left foot almost to the last.

Post-mortem.—The left side was less rigid than the right, and many of the muscles were marked with blood extravasations. There were some small ecchymoses on the surface of the right hemisphere, and there was also a fracture at the base of the skull. On examining the substance of the brain, injury to its tissue was found to be limited to the right middle lobe. In this, which is in the museum of the hospital, there were several lacerations caused by extravasation

of blood, one in the lowest part extending to the surface behind the Sylvian fissure, and others more deeply in its tissue but external to the corpus striatum. Of these the largest measured $\cdot 7$ of an inch by $\cdot 5$, and had a depth of about one inch. The tissue about them was pink and softened.

I had the opportunity of seeing this patient during life, and took occasion to express an opinion as to the seat of the injury to the brain, which in this case, besides causing a partial hemiplegia, was also associated with convulsive seizures.

In relating these cases I have referred to the middle lobe of the brain as the part affected. This, although a conventional, is, of course, an artificial reference. If examined at an early period of growth, at the fourteenth week of foetal life, this region includes the fissure of Sylvius, which is then

FIG. 1.—Diagram of foetal brain about fourteenth week, showing the nearly vertical direction of the fissure of Sylvius and the relation of the so-called posterior lobe.

nearly vertical,¹ the corpus striatum and all the fibres passing through this peduncle of the mantle. But as the brain grows by unfolding of its tissue, and as the Sylvian fissure loses its vertical direction, the most posterior part of the hemisphere is brought by a half twist of the peduncle (corpus striatum) into the middle region of the mantle (see figs. 1 and 2), which contains, therefore, in its lowest portion

¹ See "Description of a Foetal Brain" in the 'Journal of Anatomy and Physiology,' May, 1870.

the folds of hemisphere originally the most posterior, in its middle the twisted peduncle, and, converging on this, the fibres from all parts of the mantle, including those which pass to the opposite hemisphere in the corpus callosum. It is

FIG. 2.—Diagram of adult brain, showing the antero-posterior direction of the fissure of Sylvius and the altered position of the posterior lobe, which is twisted downwards and forwards.

not even desirable to describe the hemisphere as consisting of an anterior and posterior lobe, lest any such division should lead to misconception of the fact that the entire mantle, its covering of gray matter perhaps excluded, is but the unfolding of the fibres of the peduncle, most comparable to the unfolding of a fan, with no division to mark the beginning or the ending of separate lobes.

As an appendix to these observations I have arranged in Tables I and II cases of side paralysis from the works of Bouillaud, Abercrombie, and Andral, and, as more recent illustrations, I am enabled by the kindness of the Medical Officers of St. George's Hospital to add from their register cases recorded from 1859 to 1868, both years inclusive. For convenience of reference these cases are also figured (Table III) on an outline map of the brain.¹

¹ Dr. Hughlings Jackson has been so kind as to draw my attention to an observation by Dr. Sieveking respecting the great frequency with which convulsions seem to affect the left side. "The convulsions that ensue are more or less violent, and generally show a preponderance on one side of the body. . . . It has appeared to me that the left side is the one most frequently affected."—Sieveking on 'Epilepsy,' 2nd edit., p. 5.

In these tables all the cases are placed which conform to the following conditions :—Age, above 19 years ; membranes of brain free from disease ; brain tissue diseased or injured on one side only ; paralysis distinctly marked.

When added to those already referred to, these cases give—

Cases of side paralysis	109
Cases in which rigidity or convulsions occur .	46
Cases of right-side paralysis	48
Cases in which rigidity or convulsions occur .	7
Cases of left-side paralysis	61
Cases in which rigidity or convulsions occur .	39

When examined with reference to the parts of the hemispheres involved in the disease or injury, we have the following results :

Cases in which parts above the corpora striata are affected :

Left side	37 cases.
Convulsions or rigidity in	7 „
Right side	47 „
Convulsions or rigidity in	39 „

Cases in which the corpora striata, including the optic thalami, are affected :

Left side	11 cases.
Convulsions or rigidity in	0 „
Right side	13 ¹ „
Convulsions or rigidity in	0 „

In some few (six) cases, in which the corpus striatum and the parts outside it happen to be diseased together, the history of the case has been relied upon to determine whether the disease should be regarded as extending from above into the peduncle or whether the corpus striatum was the part first affected.

Amongst Andral's cases, 'Observations relatives à des

¹ One case of disease of the pons Varolii not included.

cas où le Trouble du Movement a été le seul Symptom,' all which are given in this and in the next chapter are examples of disease of the right side of the brain, although in two of the twelve there is also a history of disease of the left side as well. Two of these cases, not included in the tables, are briefly as follows:—(1) A man, æt. 56, had right-side paralysis, but neither contractions nor convulsions; later he became violently agitated on the left side, the left arm passed into a state of rigidity like that of tetanus, and then the left side became paralysed. There was a great extent of softening in the left hemisphere; in the right the middle of the corpus striatum was the seat of limited ramollissement. (2) A man, æt. 30, suffered from rigidity, and later from alternate attacks of left-side paralysis and of convulsions, the paralysis becoming gradually confirmed. There was softening at the middle of the right optic thalamus. These cases are excluded from the tables because in the first both hemispheres were diseased, and in the second there was softening of the “voûte à trois piliers.”

A case (p. 649) of right-side disease with rigidity is also excluded because no distinct mention of paralysis is made; the upper half of the right hemisphere was hard (“caracteres du squirrhe”).

Of the seven cases of rigidity or convulsions with right-side paralysis one has been already referred to, and Cases 1 and 2, Bouillaud's—are also instances of cerebral abscess. (3) Andral.—The symptoms were not well marked. The patient is described as agitated, and contraction was limited to the little and ring fingers of the right hand. (4) Andral.—The patient had been ill three years, and had had paralysis four months. He had only one convulsive seizure, and that one immediately before death. (5) Abercrombie.—The side paralysis had lasted six months without convulsion or rigidity, when the patient was attacked with convulsions and died in nine hours. (6) Abercrombie.—The entire left hemisphere was like a bag of purulent matter.

TABLE I.—Cases of *Right-side Paralysis*.

No.	Rigidity	Convulsions.	No convulsions.	Seat of Disease.	Reference.
1	R.	...	...	Middle internal lobe, abscess	Bouillaud, Obs. 20.
2	...	C.	...	Junction of anterior and middle lobes, abscess	" " Obs. 30.
3	R.	C.	...	Softening of middle lobe	Andral, tom. v, p. 493.
4	...	C.	...	Cancer of optic thalamus, corpus striatum, and outside these	" tom. v, p. 646.
5	...	C.	...	Softening of middle lobe	Abercrombie, Case 32.
6	...	C.	...	Softening, purulent, of all hemisphere; clot in optic thalamus	" Case 38.
7	...	...	N. C.	Softening of middle lobe	Bouillaud, Obs. 25.
8	...	...	N. C.	Abscess in and softening of middle and posterior lobes	" Obs. 33.
9	...	...	N. C.	Sort of tumour in anterior lobe, softening of middle lobe	" Obs. 36.
10	...	...	N. C.	Tumour pressing on and causing softening of anterior lobe	" Obs. 37.
11	...	...	N. C.	Side and anterior lobe, tumour	" Obs. 38.
12	...	...	N. C.	Posterior and middle lobes, cancer	" Obs. 44.
13	...	...	N. C.	Corpus striatum, optic thalamus, and parts outside these	St. Geo. Hosp. Reg., 1859, No. 102.
14	...	...	N. C.	Softening of hemisphere	" " 1860, No. 14.
15	...	...	N. C.	Softening of hemisphere	" " No. 94.
16	...	...	N. C.	Clot involving all hemisphere	" " 1861, No. 145.
17	...	...	N. C.	Cancer in middle lobe	" " 1863, No. 229.
18	...	...	N. C.	Softening of hemisphere, embolism	" " 1864, No. 254.
19	...	...	N. C.	Clot in corpus striatum	" " 1865, No. 41.
20	...	...	N. C.	Clot in corpus striatum	" " 1866, No. 345.
21	...	...	N. C.	Softening of third frontal convolution	" " No. 346.
22	...	...	N. C.	Softening of middle lobe	" " 1867, No. 90.
23	...	...	N. C.	Softening of middle lobe, embolism	" " No. 254.
24	...	...	N. C.	Clot in anterior and middle lobes	" " 1868, No. 159.
25	...	...	N. C.	Cancer in posterior lobe	" " " "
26	...	...	N. C.	Clot in anterior lobe	Andral, tom. v, p. 313.
27	...	...	N. C.	Clot in posterior lobe	" " p. 316.
28	...	...	N. C.	Clot in posterior lobe	" " p. 319.
29	...	...	N. C.	Clot in middle lobe	" " p. 322.
30	...	...	N. C.	Cyst in cerebral peduncle	" " p. 339.
31	...	...	N. C.	Softening of corpus striatum	" " p. 458.

TABLE II.—Cases of *Left-side Paralysis*.

	2	4	34
32	...	...	N. C.
33	...	...	N. C.
34	...	...	N. C.
35	...	...	N. C.
36	...	...	N. C.
37	...	...	N. C.
38	...	...	N. C.
39	...	...	N. C.
40	...	...	N. C.
Totals	2	4	34
1	...	...	N. C.
2	...	...	N. C.
3	...	...	N. C.
4	...	...	N. C.
5	...	...	N. C.
6	...	...	N. C.
7 ¹	...	...	N. C.
8 ²	...	...	N. C.
9	...	...	N. C.
10	...	...	N. C.
11 ³	...	...	N. C.
12	...	...	N. C.
13 ⁴	...	...	N. C.
14 ⁵	...	...	N. C.
15	R.	...	...
Softening of hemisphere..... left			
Softening of corpus striatum..... left			
Softening of hemisphere..... left			
Softening of corpus striatum..... left			
Cyst in hemisphere outside ventricle..... left			
Cyst in hemisphere outside ventricle..... left			
Softening of upper part of hemisphere, with clot..... left			
Softening of anterior part of hemisphere..... left			
Induration and softening of parts of hemisphere..... left			
Clot in corpus striatum..... right			
Clot in corpus striatum..... right			
Clot in optic thalamus..... right			
Softening of corpus striatum and optic thalamus, and outside these..... right			
Softening of corpus striatum and optic thalamus, and outside these..... right			
Softening of corpus striatum and optic thalamus, and largely outside these..... right			
Cyst in middle lobe..... right			
Softening of middle lobe..... right			
All hemisphere..... right			
Tumour in posterior lobe..... right			
Clot in middle lobe..... right			
Posterior lobe above level of corpus callosum..... right			
Cancer outside corpus striatum and optic thalamus..... right			
Slight softening in middle of centrum ovale..... right			
Clot outside corpus striatum and optic thalamus..... right			
Andral, tom. v, p. 332.			
" " " p. 335.			
" " " p. 337.			
" " " p. 467.			
" " " p. 483.			
" " " p. 517.			
" " " p. 328.			
Abercrombie, Case 34.			
St. Geo. Hosp. Reg., 1860, No. 15.			
" " " 1862, No. 121.			
" " " 1866, No. 261.			
" " " 1868, No. 311.			
Bouilland, Obs. 43.			
Andral, tom. v, p. 417.			
Bouilland, Obs. 11.			

¹ The paralysis was confirmed two years before this man came under observation. ² This patient was aged eighteen years.

³ To the history of this patient the note is added "Not seen by registrar."

⁴ This case, first described by Andral, is also quoted at length by Abercrombie. Progress slow, duration fifteen years.

⁵ The softened portion was of small extent, "the size of a nut."

No.	Rigidity.	Convul- sions.	No con- vulsions.	Seat of Disease.	Reference.
16	R.	...	...	Softening and suppuration outside optic thalamus	Bouillaud, Obs. 14.
17	R.	...	...	Clot in posterior and middle lobes	" " Obs. 45.
18	R.	...	...	Abscess in anterior lobe from corpus striatum forwards	St. Geo. Hosp. Reg., 1860, No. 170.
19	R.	...	...	Tumour in lower part of middle lobe	" " " " 75.
20	R.	...	...	Clot in lower part of middle lobe	Andral, tom. v, p. 325.
21	R.	...	...	Softening of hemisphere, corpus striatum, and optic thalamus, right	" " " " p. 404.
22	R.	...	...	Softening at union of anterior and middle lobes	" " " " p. 406.
23 ¹	R.	...	...	Softening of corpus striatum, optic thalamus, and parts around, right	" " " " p. 410.
24	R.	...	...	Softening of posterior and middle lobes	" " " " p. 413.
25	R.	C.	...	Clot in middle lobe, extending into corpus striatum	Bouillaud, Obs. 12.
26 ²	...	C.	...	Abscess in anterior lobe	" " Obs. 29.
27	...	C.	...	Abscess in posterior lobe	" " Obs. 28.
28	...	C.	...	Abscess in posterior lobe	" " Obs. 31.
29	...	C.	...	Abscess in posterior lobe	" " Obs. 32.
30	...	C.	...	Cancer in posterior, middle, and part of anterior lobes	" " Obs. 42.
31	...	C.	...	Tumour in middle lobe	St. Geo. Hosp. Reg., 1859, No. 202.
32	...	C.	...	Outside ventricle, extending into corpus striatum	" " 1860, No. 116.
33	...	C.	...	Clot in posterior lobe	" " 1862, No. 33.
34	...	C.	...	Softening of front part of middle lobe	" " 1863, No. 2.
35	...	C.	...	Middle of hemisphere	" " 1865, No. 1.
31	...	C.	...	Pus in hemisphere	" " 1867, No. 302.
36	...	C.	...	Clot outside corpus striatum and optic thalamus	Andral, tom. v, p. 343.
38	...	C.	...	Softening outside, below, and behind corpus striatum	" " " " p. 445.
39	...	C.	...	Anterior lobe, corpus striatum, and optic thalamus, softening, right	" " " " p. 449.
40	...	C.	...	Post. and mid. lobes, corp. striat., and optic thal., softening	" " " " p. 510.
41	...	C.	...	Cyst in upper part of hemisphere, and second cyst below this	Abercrombie, Case 132.
42	...	C.	...	Tubercle in middle lobe	" " Case 86.
43	R.	...	...	Softening of anterior lobe	" " Case 35.
Totals		11	18		
		29	14		

¹ In the original there is an error as to the side paralysed.² In the original the heading is printed in error "abscess enkysté de l'hémisphère gauche"?

Horizontal lines through ant.(a.a.)and post.(b.b.)commissures.

Cases in which rigidity or convulsions occurred

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Cases from which they were absent

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