TWO CASES
OF
DISEASE OF THE BRAIN,
FOLLOWING THE APPLICATION OF A LIGATURE TO THE
CAROTID ARTERY.

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THE two following cases appear to possess an interest that entitles them to be placed under the consideration of the Society.

James Mason, ætat. 48, in July 1829, was admitted into St. Bartholomew's Hospital, with an aneurismal tumour under his right ear. It had been forming eight months, and had considerably increased during the last fortnight; it was about the size of a small orange. On July 18th I tied the common carotid artery. The application of the ligature not only caused the pulsation in the tumour to cease, but to render it flaccid. When he was put to bed, he expressed himself to have become altogether easier than he had been, and to have lost the distressing pain in his head. In about an hour and a half after the operation, he was discovered to be slightly convulsed on the right side. He afterwards sunk into a state of stupor, and was roused with difficulty. His mouth was drawn to the right side; his pulse labouring and slow; he was bled to the extent of xxx oz., and the pulse then became freer. After this he became more sensible, and readily answered questions. He swallowed some tea with difficulty. He has now a slight cough, and is troubled with mucus in the trachea. He has twitchings of the right side; he was bled to xxx oz.

On the 19th he had dozed during the night; the twitchings of the right side have continued; he has no feeling on the left side—pulse 100. The cough and the mucus are troublesome, and he has difficulty of swallowing. He was bled to xvi oz., and in the evening he appeared to be better.

On the 20th he appeared to be much in the same state as on the previous day. He complained of pain on the right side of his head. He was again bled to xvi oz.

On the 21st he had a restless night. The twitchings not quite so violent; the paralysis of the left side has continued the same.

On the 22nd he had slept in the night. His urine had passed off involuntarily. Twitchings less—pulse 110. He swallowed with difficulty, but has not coughed. He expressed himself as feeling better.

On the 23rd he had had a quiet night, has swallowed better, and has not coughed. Has had no twitchings of the right side, the left side motionless. Pulse 110—regular.

24th. Much the same, he answers questions readily, and swallows easily. Has not been conscious of the passage either of his urine or stools. He quickly sunk from this time, and died in the evening.

Examination of the body.—The veins of the right side of the brain were not so filled out as those on the left. There were bloody points on the left hemisphere. The substance of the cerebrum on the right side was quite soft and cream-like. There was no deposit of blood in any part, but a little more serum in the ventricles than usual. The cerebellum was healthy. There were atheromatous deposits in the coats of the aorta.

On the 9th of April 1845, at 8 o'clock A.M., William Brown, ætat. 28, was admitted into St. Bartholomew's Hospital. At 3 o'clock the same morning he stumbled against a door, whilst smoking a pipe, which inflicting a

wound in the mouth, penetrated the lateral part of the root of the tongue, anterior to the right tonsil.

The pipe was broken into several pieces, one portion of which the patient felt with his fingers in the wound, but he was unable to remove it. Some bleeding, which occurred at the time of the accident, gradually subsided. The voice was husky. He complained of great pain, which was increased on attempting to swallow, or to open his mouth.

The wound presented a jagged appearance, and a probe could be introduced to the extent of three-fourths of an inch, in a direction downwards and backwards, but no foreign body could be detected. The parts around the wound, especially the tonsil, were greatly swollen; indeed, the tumefaction externally about the angle of the jaw was very considerable.

During the next five days the swelling and pain gradually increased, the former extending as low as the clavicle, and materially impeding the motions of the neck and of deglutition, so that he could take little nourishment. His tongue was covered with a pasty coating. The saliva he spat up was mixed with a little dirty and very offensive fluid. His pulse was small and weak. On the evening of the 5th day his breathing became noisy and difficult. On pressing the tongue, two drachms of pus escaped from the wound; but by fomentations, the pain, swelling, and difficulty of breathing in some measure subsided, so that with the aid of a few drops of laudanum, some tranquil rest was procured.

On the morning of the 16th, after having passed a quiet night, hæmorrhage suddenly took place to the extent of xxiv oz., which was arrested by my able and intelligent house-surgeon, Mr. Moore, who happened to be in the ward when the bleeding had just commenced. I was immediately sent for, and fearing that if the pressure was remitted, the hæmorrhage would prove fatal, I proceeded to tie the carotid artery.

This proceeding could not be accomplished without much difficulty, arising from the swollen and sloughing state of the parts, and from the effusion of blood and pus, which not only

prevented me recognizing the various tissues, but had materially altered the relation of the different parts; much caution was therefore necessary. Moreover, the excessive restlessness of the patient rendered the operation still more tedious. During the operation, the pressure on the carotid artery was relaxed, and as there was then no bleeding, it was entirely removed; but the swelling at the upper part of the neck again pulsated.

As soon as the ligature was applied to the carotid (which was done by my colleague, Mr. Wormald, who most ably assisted me throughout) $2\frac{1}{2}$ inches above the arteria innominata, the pulsation entirely ceased. It was observed during the operation, that the patient made violent efforts with his right side, but that he never moved the left extremities. After the operation, some brandy with laudanum was given him, which he swallowed without difficulty.

During the night he continued very restless, although he got some sleep, and the extremities of the right side were frequently convulsed. His pulse, which had been 132, sunk to 96. He got sleep in the morning, and took some beef-tea.

17th.—He has continued to sleep much; his pupils were contracted; his pulse 88, small and regular. The twitchings of the right side have continued; the paralysis of the left side has not been less. He had much difficulty in swallowing, which excited fits of coughing. Towards evening his pupils became natural, and he evinced more consciousness, and passed a quiet night.

18th.—He took beef-tea, generally without cough. He was less pallid, and said he felt better. The left side of his face now became paralysed. His pulse had risen to 115, and he had more power. The swelling at the upper part of the neck was softer and smaller.

About midnight, whilst coughing, arterial blood flowed through the nose and mouth; and from the wound of the neck a small quantity also escaped, which ceased on pressing the carotid above the clavicle. Although he had lost only an ounce of blood, he was considerably reduced in strength,

and the left foot was quite cold. He, however, again rallied, and knew those about him.

19th.—Although sensible when roused, his eyes remained half-open. He has talked a great deal, and constantly asked for drink. The left leg has recovered its warmth, and he has frequently moved his right arm towards his head. The irides acted when exposed to light. He had taken an opiate, but without effect.

On the 20th his pulse became more rapid and thready. Throughout the day he swallowed easily, and coughed but little. He was sensible, but lay with his eyes shut, occasionally throwing his right arm about. He took more nourishment, and in the evening he slept tranquilly.

About 2 o'clock A.M., on the 21st, a fit of coughing, with hæmorrhage to the extent of two or three ounces from his nose and mouth, terminated his existence.

Examination of the body twelve hours after death.—The wound in the neck presented a sloughy appearance. On reflecting the skin of the neck, the tissues were found to be much consolidated by lymph, and at the upper part, especially, the structures were obscured by sloughs, pus, and effused blood. At the bifurcation of the carotid on the right side, there was a large and firm coagulum, in the middle of which was the extremity of the tobacco-pipe, which had penetrated the artery at the point of division into external and internal carotids.

At the point where the artery had been tied, all the important parts around were imbedded in lymph, but uninjured and undisturbed by the operation. The jugular vein was closed to one-third of its usual size; its interior was healthy. A firm coagulum was found in the interior of the artery, above and below the ligature.

On opening into the longitudinal sinus, little blood was found, and the veins entering it were only partially filled. The arachnoid membrane was somewhat opaque, and beneath it serum was effused. The convolutions of the cerebrum on the right side were flattened and softened. On dissecting

the brain, irregularly-shaped cavities filled with ash-coloured effusion, with shreds and particles of a greenish hue, were discovered. One of these cavities was two inches in diameter, and encroached on the corpus striatum of the same side. From another, besides broken down brain, pus also issued.

I have only to add, what must be obvious, that if the portion of the tobacco-pipe had been detected at the time the patient was brought to the hospital, and withdrawn from its position in the wound, he must have died instantly, from the gush of blood that would have taken place, as this body seemed to have completely plugged up the artery. I understand that such a sudden fatal event has occurred under similar circumstances.