CASE
OF
DISEASE IN THE BRAIN,

PRODUCED BY EXTERNAL VIOLENCE.

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THERE are so few cases recorded of disease of the brain arising from external violence, and relating to a change of structure of that organ, or of its membranes, that I have been induced to draw up the following facts and observations for the Society.

Thomas Turnfield, a serjeant of marines, aged thirty-six, was admitted into this hospital from his majesty's ship Dictator, on the 14th of April 1810; labouring under occasional attacks of stupor, as stated in his case transmitted by the surgeon of the ship. He was about five feet nine inches in height, muscular, of a sanguineous temperament, and without any marks of a scrophulous habit.

Six years previous to this period, he was wounded on the left parietal bone by a cutlass, in boarding an enemy's vessel. The wound, by report, healed readily without any exfoliation; leaving a cicatrix two inches in length, parallel to, and a little to the left of, the sagittal suture.

From the period of the infliction of the wound he had complained of a constant headach, which, at the commencement, was more or less acute, but in time became gradually obtuse.

During the last seven or eight months, he had been subject to fits of stupor, which came upon him at very irregular intervals; sometimes once or twice a week, at other times only once a fortnight, until about the beginning of March 1810; when the paroxysms became much more frequent, seldom lasting longer than an hour or hour and half; and he had always sufficient warning of their approach to lay himself down. During the intermissions, he was perfectly sensible. His pulse, pupils, and countenance, were natural. His appetite was good, and the kidneys continued to perform their functions naturally. His bowels, for the last two or three months, had been so torpid, as to require the powers of the strongest cathartics to move them.

On the 15th April (the day after his admission), while I was in conversation with the patient, who

was dressed, and had been walking about in the ward, he suddenly became silent,—stepped a little aside, and quietly laid himself down upon his bed. In less than three minutes, his pupils were dilated to the utmost, and the iris of both eyes insensible to the stimulus of light. His pulse was slow and intermitting, not exceeding 52 strokes in the minute ; his breathing laborious ; and in half an hour he was foaming at the mouth.

This paroxysm lasted a full hour and a half ; but in less than another hour, he was walking about as before, free from every complaint, except slight languor, and his usual degree of headach.

The patient died in one of those paroxysms, on the 19th of April, being the fifth day after his admission, and the fourth attack he had experienced while in the hospital.

On the day of his admission, he had a brisk cathartic given him, and eighteen ounces of blood were abstracted from the jugular veins, both which were opened. On the following day, a seton was cut in the nape of the neck ; his head was shaved, and directed to be frequently rubbed with a hard dry towel ; and he was prescribed five grains of the *Pilula Hydrargyri* thrice a day.

Appearances on Dissection twelve hours after Death.

The scalp had its natural appearance, and the cicatrix of the cutlass wound did not seem to adhere to the subjacent bone ; but moved over it with the other parts, though in a somewhat less degree.

On removing the scull-cap, the adhesions between the dura mater and bone were found stronger than usual ; and the inner table of the scull, immediately under the cutlass wound, was free from any mark of disease.

Upon detaching the dura mater from the brain, a portion of completely formed bone was found deposited upon its inner side, of the size of a finger nail, and tolerably thick. It was attached to the left side of the longitudinal sinus, and corresponded nearly with the direction of the wound on the scalp. The veins traversing the left hemisphere were rather more distended with blood than on the right ; otherwise the surface of the brain possessed its natural appearance.

On cutting into the substance of the brain, I found a tumor of a scrophulous nature, larger than a hen's egg ; occupying a considerable portion of the middle lobe of the left hemisphere, and extending, in depth, to nearly on a line with the cor-

pus callosum. The tumor was not detached from the adjoining cerebrum, but seemed merely as a condensed, or more properly, indurated portion of brain. There was no appearance of pus, and the ventricles contained about an ounce of serum.

The plexus choroides and optic nerves were natural, the former containing very little blood. The other parts of the brain and cerebellum were free from any mark of disease.

The thorax and abdomen, I lament to say, were not examined.

That the morbid appearances just described originated in the wound on the scalp, we have, I think, considerable reason to believe—first, from their situation being immediately under the wounded part; and secondly, from the constant headaches, with which the patient was afflicted, having commenced at the period when the wound was received.

Osseous deposits on the dura mater are not unfrequent; but it is worthy of remark, that this is the second instance I have met with, in which a deposition of bony matter, on the side of one of the great sinuses, has been accompanied by a tumor of the brain contiguous to it*.

* See the Case of the Gunner of the Fly, mentioned at p. 112, in the second volume of the Transactions of this Society.

With regard to the mode of treatment to be pursued in such cases of organic affections of the brain as that now described, I confess myself not very competent to give an opinion. A course of mercury, at an early period of the complaint, which has been recommended by Sir Gilbert Blane, appears to me, for the reasons stated by that experienced physician, as likely to be serviceable *.

I cannot, however, here omit to urge the necessity of copious blood-letting, in the first instance, in all affections of the brain arising from external injury, concussion† not excepted; and in such cases, I do not know of any mode so good as that of puncturing the temporal artery. When it is found necessary to cut through the scalp, with the view to examine into the state of the bone underneath, I would also permit such vessels, as may have been divided in the operation, to bleed freely.

* See a history of some cases of disease of the brain, with an account of the appearances upon examination after death, &c. by Sir Gilbert Blane, M.D. F.R.S. in the Second Volume of the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge. See also a valuable paper in the first Volume of the Transactions of this Society, by Dr. Yelloly.

† In the extensive practice of some years at this public institution, I do not recollect a single instance, in which I had reason to lament this practical conclusion. It is necessary to remark, however, that as all the cases admitted into the hospital come from ships of war lying in the Downs, some few hours generally elapse before the patient can be conveyed on shore, and thus an opportunity is afforded, during the interval, for vascular reaction to succeed the sedative effects of concussion.

The propriety of this practice cannot, I think, be placed in a clearer point of view, than by briefly relating the particulars of a case of fractured cranium attended with considerable depression, that very recently came under my care.

Patrick Connelly, aged 23, was admitted into the hospital from his Majesty's ship York, on the 16th Sept. 1812, having fractured his scull that morning, by a fall from the main deck into the orlop.

He was taken up senseless, and continued so for two hours. When I saw him at the hospital, his senses were restored, he was perfectly coherent, and gave me a correct account of the accident; but he complained of irritability of the stomach, and much headach and giddiness. His pulse was slow, sharp, and slightly irregular; the vessels of his eyes were turgid, and I perceived a slight rotatory movement of the head, corresponding with the pulsations of the carotids.

The lacerated part of the scalp was about three inches above the left ear. I made a crucial incision upon it, and, by this means, discovered a fracture of four inches in length, on the parietal bone, running from before, backwards; and a depression of the inferior, or squamous part, about its middle, the whole thickness of the bone; but which gra-

dually rose to its proper level as it approached the extremities of the fracture.

That the depression was thus considerable, there can be no doubt, since, on placing the scalpel flat upon the depressed bone, in the presence of Messrs. Wooley and Mitchell, hospital-mates, the edge of the instrument passed with facility under the inner table of the upper or undepressed part of the cranium.

In the operation, a branch of the temporal artery was divided, which was permitted to bleed freely ; and, as symptoms did not authorize us to do more, the divided scalp was brought together by slips of sticking plaster. The patient was prescribed a cathartic ; and, late in the evening, twenty ounces of blood were abstracted.

Two small spiculæ of bone exfoliated, and in little more than a month the wound was cicatrised ; but the violent attacks of headach and giddiness, with which the patient was affected during the greater part of this period, called for so frequent a recourse to the lancet, that on adding up, from his prescription ticket, the whole quantity of blood withdrawn at these different bleedings, within the first three weeks, I found it to amount to nearly two hundred ounces, without taking into the calculation the quantity procured by the repeated ap-

plication of leeches to the temples. He had also several blisters applied to the head; and latterly a seton was cut in the nape of the neck.

In order to promote the absorption of the asperities of the depressed bone, which was beaten down upon the brain, and to round its edge, that the compression might be as slight as possible, the patient was put on a gentle course of mercury, which was continued nearly three months, during the greater part of which time, his mouth was slightly affected; and on the 28th Jan. 1813, he was discharged to his duty, free from every affection of the brain, or other complaint.

The successful issue of this case, without having recourse to the application of the trephine, strikingly illustrates the justness of Mr. Abernethy's opinions, on that highly important subject*.

*Royal Naval Hospital, Deal,
27th Feb. 1813.*

* See Mr. Abernethy's Book on Injuries of the Head.