

Observations on Hydrocephalus Internus, with Cases. Read before Dumfries Medical Society, 4th November, 1822. By WILLIAM MAXWELL, M.D.

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THE following communication consists of observations on the treatment of that state of the brain expressed by a coincidence of symptoms which are generally found after death to have accompanied a deposition of water in the brain or cerebellum, but which occasionally prevail without effusion of fluid; death appearing in those cases to have been occasioned by inflammation of the substance of this organ, or of its membranes, or by abscess, hydatids, encysted tumours, &c. I am, from this circumstance, disposed to use the term *Hydrocephalus Internus*, more in an abstract sense than as an expression strictly derivative.

In the year 1795-6, previous to beginning regular practice, I saw about twenty-five cases of *hydrocephalus internus*, all of which terminated fatally. From this it was evident that the modes of treating this affection were inefficient, and that hopes of removing the disease must be founded on some new or more active treatment; as in many of the above cases the patients had in an early stage been very freely purged, bled with leeches, and in the arm; and in others a diarrhœa had prevailed from the first attack, and continued to an advanced period of the disease. It was thought proper to employ very copious blood-letting in the way by which the largest quantity of blood could be rapidly abstracted from the head: this mode of treatment exceeded expectation, and was done in the following manner: And, as there was considerable danger of the patient sinking from inanition, it was thought a necessary preliminary to obtain the full consent of the parents to a measure attended with much hazard, and extremely painful to the feelings of the practitioner, by informing them, that after the usual mode of purging, moderate bleeding, &c. this distressing measure was the only mean by which the life of the patient could be preserved. I shall, out of nearly ninety cases, about sixty of which recovered, select two wherein the usual characteristic symptoms of the disease were distinctly marked.

Master J., æt. 7, a healthy boy, became dull and indisposed to his usual exercise, complaining of headach, which, with much languor, increased during six or eight days. The bowels were frequently moved by purgatives. At this period pain in

the head became more distressing, and the bowels were difficultly moved. The boy showed no inclination to leave the house;—he rested frequently his head in his hands upon a table, or in a kneeling posture on a chair; the muscular power of his limbs began to fail; the pulse became rapid; pain of the head excessive, with occasional remissions, and during these, constant drowsiness came on. Still, however, there was a considerable disposition to take food, although it was passed half digested. The mind now became indistinct, with inability to articulate; vision was imperfect; the evacuations took place without his attention; squinting next appeared; pulse 160—frequent expression of pain in the head; muscles in the neck became supple, the head rolling upon the breast and shoulders, with immobility of the pupils and total want of expression in the eyes; the face pale and inanimate. Mr J., his father, a medical gentleman, requested that I would take the sole direction of the case, observing, that he was well aware that extreme bleeding was the only means by which the child could be recovered; desiring that it might be carried to whatever extent it might be thought necessary, and that, if the child should sink under such active treatment, he would still retain a warm sense of gratitude for the painful task which he had imposed on me. The time was fixed for the operation, and, with the father's consent, I invited my medical friends Dr G., Mr S., Mr M. and Mr St., to be present. The father, after providing every thing necessary, withdrew to a remote part of the house, waiting, with the anxiety of an affectionate parent, the fate of an only son.

The boy was laid on a mattress, his head somewhat lower than the rest of the person, medical gentlemen holding each wrist; the jugular vein on the right side was opened; it bled rapidly—the stream was frequently interrupted to prevent fainting. The bleeding was continued till syncope began to take place: a little negus was then given; when the pulse revived the finger was removed from the orifice and the blood allowed to flow till the gentlemen agreed that the pulse could no longer be felt. The patient at this time had no appearance of life, and continued without the least symptom of animation for ten minutes, when he began to revive gradually: and in the evening more favourable symptoms appeared. His mind was remarkably improved, as well as his physical powers, being now able to articulate, although indistinctly, and to tell the hour on a watch. He had a tolerable night's rest, having taken frequently a little water-gruel and beef-tea. During the following day there was but little improvement. On the third day the

bleeding was repeated in the left jugular vein, and a complete recovery followed.

CASE II.—In April 1816, I was called to see a child of Mr B. ætat. 14. He had been affected with symptoms of hydrocephalus about seven days, had been repeatedly purged, and bled profusely on the head by leeches. I found the child very languid, insensible to moderate pressure or pinching; vision appeared to be entirely gone, eyes death-like without any expression; squinting with both eyes had continued during three days; uttering frequently shrill screams; the head rolled upon the shoulders as if it had been attached to the trunk by muscle alone. He was bled in the neck, as in the last case, till the pulse could no longer be felt, and remained in this state during some hours before he began to revive. I left him at 11 *p. m.*, and was so apprehensive that bleeding had been carried too far in this case, that I sent my servant next morning to enquire what had happened during the night, and was surprised by learning through him, that the child was so much better, that he saw him at the window in the nurse's arms, looking at two young cocks fighting in the yard. He recovered daily, and is now a fine healthy boy.

In upwards of ninety cases that have been treated in this way, above sixty have recovered. In most of these I have had the assistance of one or more medical gentlemen of this place. Bleeding was generally repeated, as the constitution could seldom bear at one operation a subtraction of blood sufficient to remove the malady.

It may fairly be objected to the success of this treatment, that hydrocephalus internus did not exist in the above sixty cases, but that other causes might have produced delusive symptoms. I confess that I cannot give an answer sufficiently satisfactory, and that I cannot meet the objection by any better proof than by analogy, for, owing to the aversion that prevails in this part of the country to the examination of the dead, it was with much difficulty that I was allowed to inspect seventeen or eighteen heads out of the twenty-seven. In all of these, with the exception of eight, from one to four or six ounces of fluid were found in the ventricles or within the membranes. As the cases of recovery did in almost every symptom resemble those that terminated fatally, where the heads were allowed to be opened, we may analogically be allowed to infer that the disease in both was the same; and, without better proof, to consider such close analogy a legitimate conclusion. In the other eight cases, above alluded to, the quantity of water did not exceed half an ounce. In the first of these, a cyst, containing

about four ounces of fluid, communicated with the right lateral ventricle: death took place at the end of seven months. In the second, there was suppuration in the middle of the right lobe. In the third, three round tumours of indurated cerebrum were found in the cerebellum. In cases fourth, fifth and sixth, much inflammation of the membranes and substance of the brain had existed. In the seventh, suppuration in the *thalami nervorum opticorum*. And in the last, excessive inflammation of the membranes, with some pus, was perceived near the *foramen magnum*.

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Notice of Magendie's Physiological Experiments.—We are well pleased to see experiments made, from time to time, on the inferior animals, for the purpose of elucidating some obscure, or solving some doubtful problem in physiology. But when we observe the whole rising race of candidates for fame rushing impetuously, with knives, needles, saws and poisons, on the living animals around them,—in order to find out some new phenomenon during their torturous experiments, we must pause, and ask, is this the way to clothe the profession in the character of wisdom and humanity as well as science?—we think it is not the way—but our continental brethren are of a very different opinion. In Paris, the mania for vivisections is not repressed, but highly encouraged by institutions which, in other respects, are calculated to further the march of medical science—so true is it that there is no unmixed good in this world. The Royal Institute lauds each successive train of experiments on living animals, no matter how directly contradictory of each other they may be—and thus, a constant stimulus is kept applied to the wild and unbridled ambition, (for it perhaps is not entitled to the name of zeal,) of all ranks of the profession in France. In chemical researches and experiments it is far otherwise than in physiological. *There*, no cruelty is exercised, and every new discovery is almost sure to turn to the advantage of the healing art. How far physiological experiments have contributed to strengthen our hands in therapeutics, we leave to the candour of the most enthusiastic of that party themselves.

We have been led into this train of reflection, on perusing the recent experiments of Magendie, as laid before the Institute, and as repeated before several respectable witnesses in London. Should there be no error or deception in these experiments, (which we are very far from vouching,) we are all at sea respecting the senses. The olfactory are no longer the