

CLINICAL CASES.

Clinical Notes on Chronic Hydrocephalus in the Adult. By SAMUEL WILKS, M.D. Lond., Assistant-Physician to Guy's Hospital.

THE following cases are published in the 'Journal of Mental Science,' principally to elicit from those who have a large experience in the treatment of mental disorders, the frequency of chronic hydrocephalus as a cause of a permanent weakness of mind and body.

At the last spring assizes held at Bodmin, the trial of *Millett v. Edmunds* was one in which the plaintiff sought damages on account of the defendant having charged him with killing his brother. This brother was about fifty years of age, had been of feeble intellect since childhood, which incapacitated him from earning his livelihood. He was taken charge of by a domestic, who assisted to dress him and who accompanied him in his walks. He had a very large head, which was noticeable by strangers, especially as he wore his hat on the back of it; this, with a peculiarity in his gait, made his state of mind at once apparent. After having been ailing for a week or two with headache, he returned home from a walk about two o'clock, not feeling well. He, however, partook of a hearty dinner of beef, and a dessert of apples; after which he retired to his room. He was seen by the servant about an hour afterwards sitting on the stairs, when he was conducted to a sofa, and he sat there some time in a half-conscious state; he then fell back insensible, and was carried to bed. This was half-past four in the afternoon; at eight o'clock stertor came on, and continued until the morning, when he died at half-past six. On post-mortem examination the body was found healthy, and the brain likewise was said to be in the same condition, but contained half a pint of fluid in the ventricles, which were consequently of enormous size. The medical men who examined the body at first declared that this was sufficient to account for the symptoms and death, and subsequently they reiterated the same opinion; at a critical time, however, when a charge of poisoning was made, they hesitated in expressing a decided opinion as to whether this effusion in the ventricles was sufficient to cause death.

At the trial which subsequently took place arising out of the proceedings connected with this gentleman's death, my opinion was asked

I believe, because the two following paragraphs were to be found in my 'Lectures on Pathological Anatomy;' and in a volume of the 'Guy's Hospital Reports:—“Chronic hydrocephalus has a somewhat difficult pathology, and probably more than one disease is included under this name. Common as the disease is, yet, being of long duration, the chances are few of our being able to watch a case to its termination, and to examine the parts after death. Some have thought that the disease is altogether analogous to a pleuritic effusion, when the pleura appears healthy; others, that there is some local inflammatory process whereby the veins of Galen become impeded, and so a dropsy of the ventricles is caused. I have now seen several cases of chronic hydrocephalus in grown-up persons, but which probably depended upon some diseased action in infancy. I have seen a young man who had been affected with his head all his life, which was not larger than natural, die after a short illness, and the ventricles of his brain found immensely distended with fluid. I have showed you already the skull of an adult who seemed to have had a hydrocephalic head all his life; and not long ago I examined, with Mr. Hilton, the head of a gentleman who had never had his mental faculties right since birth, and dying rather suddenly, an immense ventricular effusion was found. In this case the arachnoid appeared everywhere opaque, particularly at the base, and this seemed to close the fourth ventricle; and thus the opinion of Mr. Hilton that this is one cause of ventricular effusion; for, as you know, there is a natural communication between the lateral, third, and fourth ventricles, and from the latter to the sub-arachnoid space; so, if the opening from the fourth ventricle be closed, the fluid will naturally collect in the lateral ones above. As I said before, in chronic hydrocephalus the fluid is always within the ventricles; an external hydrocephalus is spoken of, but I never saw an example of it.” In another place I say, “The so-called *serous apoplexy* is a disease of which I know nothing, it was a term formerly used to designate those cases of very speedy death with coma where no blood was found effused in the brain. There can be little doubt that many of these cases, which were described by Abercrombie, were examples of Bright's disease, &c. &c. It is possible that some instances may have been of a kind such as I have mentioned under chronic hydrocephalus, where, for a long time, a chronic inflammation has been going on in the ventricles; and yet symptoms of death sudden and very little found but increased fluid in these cavities.”

Speaking of chronic hydrocephalus, in a paper in the 'Guy's Hospital Reports,' I say, “There is still a third affection, which can with propriety be separated from these, in which the head is not necessarily enlarged, and is fatal only after a lengthened period or even in adult life. It is probable that these cases have arisen from some acute affection in childhood, and that from the severe change then

occurring the brain and its functions are never perfectly restored; consequently, a dulness of mind or idiotcy may result, and after death a ventricular effusion be found."

The cases referred to above were the following:—The first has a striking resemblance to the one which formed the subject of the trial. It is given in detail by Mr. Hilton, in his 'Lectures on Rest and Pain,' as follows:

"The gentleman who was the subject of this disease died at the age of thirty-four. On the day of his death he had visited the Crystal Palace. He had been seized with vomiting in the morning, and again about two hours before he reached home. He walked from the Crystal Palace (a mile or so), and when he entered the house he staggered and said he felt giddy and oppressed. He was placed on a bed, and cold applied to the forehead, but he died in a very short time with stertorous breathing, remaining insensible, however, almost to the last moment. I examined the body, assisted by Dr. Wilks, of Guy's Hospital, and this is his report of the post-mortem examination:

"On exposing the brain, the convolutions were flattened, and were apparently large and few; the brain structure appeared healthy. On opening the ventricles, they were found to contain at least four ounces of cerebro-spinal fluid, the sp. gr. of which was 1008, and possessed all the usual characters of this fluid. The ventricles were greatly enlarged, and all the receding and projecting angles of the boundaries and cornua were lost or subdued. The foramina of Munro were rounded, and capable of admitting a large quill not quite a third of an inch in diameter. The lining membrane of the ventricle and the choroid plexus were healthy. The septum lucidum and the fornix were softened, but the microscope showed no trace of inflammatory deposit or softening. The fourth ventricle was greatly dilated in all its directions, showing well its lateral cornua, which support the pneumo-gastric, auditory, and other accompanying nerves. The cerebro-spinal opening between the under surface of the cerebellum and the upper surface of the medulla oblongata was completely closed by a tolerably dense membranous structure, which formed a kind of pouch projecting downwards, and showed the direction of the fluid tension upon it to have been from above to below. The other organs of the body were healthy.'

"I asked his brother, who was not a professional man, to oblige me with a detail of the symptoms which he presented during life, and this is his account of them.

"He always had delicate health, the nails of his fingers were peculiar in form; as a child he was active, but very irascible, as a man he was very spare and delicate. He had a fancy for turning and gardening, but disliked the excitement of London. At the age of sixteen he had a severe nervous illness, with great depression, brought on by application to business in the City; his business, however,

was not at all intense, and would have been thought nothing of by ordinary men. His food was of the simplest kind, even tea and coffee appeared to derange his stomach. Winter and cold always affected him injuriously. He said himself he only half lived in the winter; he would appear torpid and would drop into a deep sleep after a meal, from which it was often difficult to rouse him, when he seemed scarcely to know where he was. Excitement often brought on impediment in the speech. For many years he was subject to headache, derangement of stomach, and occasional deafness. He had a peculiar restless look of the eyes and stare, and for the last year lost flesh; became stooped and feeble in his gait. He also carried his head peculiarly as if affected with slight stiffness of the neck. A few months before his death he had a severe attack of vomiting with great prostration without any apparent cause. The last month or two were marked by a morbid activity and restlessness. On the day of his death he had been to the Crystal Palace, whilst there he vomited; he walked home, staggered, felt giddy and oppressed. He was placed on a bed, and died in a short time with stertorous breathing.'"

The case of the young man referred to who suffered from chronic hydrocephalus, was about twenty years of age. He had suffered all his life with his head. Sometimes his mind appeared enfeebled, and, indeed, there was little doubt that his intellect was not very acute, although this was hidden from us by his friends. For some months he had been under medical treatment for headache, &c., but had never been confined to the house. He died at last rather unexpectedly; and on post-mortem examination the ventricles were found immensely distended with clear serum, the medical man who assisted me said there was as much as a pint. No appearance of acute disease.

In cases of this kind, where the head has been large from infancy, and the mind enfeebled, there can be little doubt that the chronic hydrocephalus has existed during the whole of life. Whether the fluid collects for the reason suggested by Mr. Hilton, from a closure of the fourth ventricle by the arachnoid, may be a question; but I think there can be little doubt that the whole cerebral structures are impaired at the period of the development of the disease, and that the symptoms cannot be due to the pressure of the fluid alone. Why death should at last ensue from a cause which has been so long persistent, creates a difficulty which occurs in many other chronic diseases. The statement made by the medical witnesses in the first case was, that some increase of the serum had suddenly occurred, and thus the apoplectic condition which was so rapidly produced. This might have been true, but at the same time it must be remembered that with this condition of brain the powers of the body as well as the mind are very low, and a trifling cause may bring the whole

machinery to a stop. That the water has existed in these cases through the whole of the patient's life there can be no doubt, for in infancy the cranium becomes larger, much broader from side to side, and its whole capacity much greater than that of the healthy skull. If fluid were not known to occupy the centre of such a head by a post-mortem examination, there could be no doubt of its existence, for no one would suppose that a person with a feeble mind and an extraordinary large head, had the latter filled with brains. In the museum of Guy's Hospital there is the skull of a middle-aged man who had suffered from chronic hydrocephalus; it is much larger than natural and is broad; the bones thick, and dura mater partly ossified. He was in tolerable possession of his powers of mind and body.

The case of the youth who was flogged to death by his school-master, Hopley, at Eastbourne is, no doubt, well remembered; but, perhaps, it is not so fresh in the memory that he was of feeble intellect and had water on the brain. When, therefore, the medical witnesses stated that there was nothing found in his body, not even the ventricular effusion, to hasten or facilitate his death, I think they were speaking too strongly; for without wishing to exculpate the prisoner for his brutal and ignorant mode of procedure with a boy of this mental calibre, I think it must be admitted that in such a subject with such a brain, the physical is impaired as well as the intellectual force, and that the powers of resistance are very slight, and that they soon succumb to external agencies. I think, therefore, that, although his beating was very severe, that it would not have caused his death so suddenly had he been in good health, and above all, had he had a good organ for the production of nerve force.

The prisoner spoke in his defence of the boy's peculiarities of character, which was corroborated by others, but which Hopley attributed to wilful obstinacy. He said the boy was very peculiar, very obstinate, determined not to learn; when he arrived at the age of sixteen, he could not or pretended not to know a sixpence from a shilling. He often took fits of obstinacy for days together. He was a nervous, timid boy, was frightened to go over a plank by himself; he also suffered from chilblains in the winter. The medical men were assisted by most experienced surgeons in London, and their evidence was that the head was very large, and appeared from its configuration as if he had suffered from water on the brain; such was found to be the case, for on examination of the brain its cavities were found to be filled with a large quantity of fluid, from six to eight ounces, and from the appearance of the parts seemed as if this effusion had been of many years duration. The appearances, it was said, would certainly lead to the belief of the boy's defective intelligence. The medical witness considered that death was caused

by shock to the nervous system, and on being asked whether the ventricular effusion would cause the nervous system to be depressed, he answered, *no*.

Lord Chief Justice Cockburn in summing up said, as for the dulness displayed by the boy, that could scarcely be wondered at after hearing the medical testimony that there was proved to be six or seven ounces of water on the brain. Mr. Hopley ought to have considered that there must be some natural defect which prevented the boy's learning.

From a comparison of this case with the preceding, and some others, I think there can be no doubt that with a brain of this kind there is not only a mental but physical weakness, that just as his feeble powers of mind were stunned by the ignorant force which was used to conquer his obstinacy, so his powers of body, at an equally low standard, could not resist the chastisement he underwent. Even were it shown that the latter was greater than I imagine it to have been, nevertheless, I believe the principle just asserted to be correct.

These cases here detailed, together with some others, afford the foundation for my experience of a chronic hydrocephalus beginning in infancy sometimes continuing to adult life. The subject of it is enfeebled both in mind and body, and a very trifling circumstance deranging his nervous system is sufficient to bring about his dissolution. Most authors are silent on the subject, or I would not have ventured to trespass on the space of the 'Journal of Mental Science' with these cases, but even this silence does not preclude the possibility of such an affection being much more common than I suppose, and being perfectly well known to the superintendents of lunatic or idiot asylums. In the latter I cannot but think they must be sometimes met with; and if so, I for one should be much pleased to hear more on the subject from those who have charge of these institutions.

Blood-Cysts situated within the Arachnoid Cavity in Cases of General Paralysis of the Insane. By JOHN W. OGLE, M.D. Oxon., F.R.C.P., Assistant-Physician and Lecturer on Medical Pathology, St. George's Hospital. (*With a Plate.*)

THE post-mortem discovery in some cases of insanity, of cysts within the arachnoid cavity containing blood, has been noticed by certain writers on Psychological Medicine. For example, Calmeil, to whose researches we are indebted for the first clear perception and understanding of general paralysis of the insane, when enumerating the various morbid changes met with inside the cranium