ACCOUNT
OF A CASE OF
CYSTICERCUS CELLULOSÆ OF
THE BRAIN.

By DREWRY OTTLEY, Esq., Surgeon.

Communicated by JOHN FORBES, M.D., F.R.S.

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THE cysticercus cellulosæ is said by Cruveilhier to be of not very unfrequent occurrence in the brains of persons dying at an advanced age. During the earlier period of life, however, it is of extremely rare occurrence, and so little is known respecting the symptoms to which the presence of this hydatid gives rise, that the account even of a single case will form a not unimportant addition to our present scanty materials for a history of this disease. Indeed, as far as I have been able to discover, the case which forms the subject of the present communication is the only one recorded in which an opportunity was afforded to a medical observer of watching the progress of the disease from an early period of its existence; as it is also the only one in which, from the absence of every complication likely to disturb the cerebral functions, the symptoms were

unquestionably due to the presence of these parasitic animals.

I shall now proceed, without further preface, to give an account of the symptoms observed and noted, from time to time, during the progress of the disease.

Mrs. J., about forty years of age, of lymphatic temperament, the wife of a chimney-sweeper, and resident in Exeter, had, for many years, been a sufferer from emphysema of the lungs, with frequent attacks of bronchitis, during which she had copious expectoration of glairy and frothy sputa.

In the early part of 1838 she began to complain of frequent giddiness, and of a dull stupifying pain in the head. In July of that year she suffered from a temporary numbness and loss of power in the right hand and arm, with some confusion of intellect, and a difficulty in articulating her words. Eight or ten ounces of blood were taken, by cupping, from the nape of the neck, and, for a time, the cerebral symptoms were relieved, but they returned again, and again, and after a time the giddiness became more constant, and the loss of memory and confusion of intellect more troublesome.

In 1839, in addition to the above symptoms, she became subject to fits, during which there was entire loss of consciousness, with convulsion of the limbs. The character of these attacks was different from that of ordinary epileptic fits; they were less sudden, both in their invasion and their termination, and the convulsions ceased and recurred as often as

eight or ten times in as many hours, the stupor remaining during the intervals, and after their cessation. The recovery from them was slower also, for she would often remain for two or three days in a stupified state, with difficulty roused to understand a question, and incapable of replying to it, sometimes using wrong words, at others unable to pronounce the words she wished to employ.

During the last twelvemonths of her life, her sufferings became more constant. She could not venture to walk alone, for she would stagger as she went, or suddenly become so confused as not to know in what street she was walking ; and more than once she was attacked with a fit in the streets. The pain in the head was now constant, though never *extremely* acute ; her sight became dim ; the convulsive attacks recurred more frequently ; and, at length, towards the end of October 1840, after being frightfully convulsed for twenty-four hours, with the face twisted over the right shoulder, and the pulse becoming more frequent and feeble, she expired, without having had any return of consciousness. During the last year, she had suffered but little from the pulmonary affection.

Twenty-four hours after death, I examined the body in the presence of Dr. S. Budd, and Mr. Parker, of Exeter.

Necropsy.—The body was not much emaciated, and offered no other appearance worthy of notice externally.

The vessels on the surface of the brain were found

moderately congested, and the sub-arachnoid cellular tissue was infiltrated with serum ; but the most remarkable morbid appearance which the organ exhibited arose from the presence of numerous small fibrous cysts in the pia mater, covering the surface of the hemispheres, and dipping between the convolutions of the brain. These cysts were present on both sides, but were most numerous on the surface of the left hemisphere. They varied in size from that of a pea to that of a small peppercorn ; they were seated in the pia mater, but had become partially imbedded in the grey matter of the convolutions. None existed in the white matter, in the central ganglia, nor in the plexus choroïdes. A few were found at the under surface of the cerebral convolutions ; but none either in the cerebellum or medulla oblongata. The cerebral tissue around the cysts appeared natural, as to colour and consistence, and the brain generally, except for the presence of these animals, would have been termed healthy. There was, I should add, however, rather more fluid in the ventricles, and at the base of the brain, than is natural.

In the chest the lungs were found partially adherent to the parietes, and universally emphysematous, exhibiting well the rounded borders characteristic of that morbid state. They had lost their resiliency, and had a doughy feel, and afforded scarcely any crepitation on pressure. The lining of the bronchial tubes was congested, but not much thickened. In the heart the right auricle was

dilated, the right ventricle thin, and the opening between these enlarged, but the valves were healthy. The left side exhibited nothing remarkable. No traces of the parasitic animals were found in the chest.

Further examination of the body was objected to by the family.

Several of the cysts which had been removed were afterwards examined, and each was found occupied by a vesicular worm, consisting of a posterior semi-transparent vesicle, and an anterior cylindrical portion which lay retracted in the former, like the finger of a glove turned inwards; the latter part was furnished at its extremity with a double circlet of hooks, round which were seen four oval suckers. The animal, in short, answered exactly to the *cysticercus cellulosæ* of Rudolphi, frequently found in some of the lower animals, and which has been so often described as to render it unnecessary that I should enter into further details respecting its structure. In some of the cysts the animal had evidently perished, and was undergoing decay, but still retained sufficient traces of its structure to leave no doubt of its identity; in these the cysts contained a turbid fluid and a small pellet of albuminous matter, the remains of the worm.

It may be not out of place to notice shortly the observations of Cruveilhier, in his "*Anatomie Pathologique*," in describing a specimen of this hydatid from the brain of an old woman of the Salpêtrière Hospital.

He says, "I have met with only two kinds of

hydatid in the human brain, cysticerci and acephalocysts. Cysticerci are much more common than acephalocysts, and generally belong to old age. I much regret not having made the most of my sojourn at the Salpêtrière in this respect. I have found them pretty frequently in the plexus choroïdes, and have always been able to distinguish them from serous cysts, or those collections of serosity scarcely encysted, and sometimes containing pseudo-membranous flakes, which are so often met with in the plexus choroïdes of old folks. These pseudo-membranous flakes of a milky white, so strongly resemble the bodies of cysticerci, that one only attains to certainty respecting their real character by opening the cysts. After the plexus choroïdes, the sub-arachnoid cellular tissue is the locality in which I have most frequently found them. In other cases, again, these entozoa are contained in the substance of the brain, but always superficially, so that a portion of the vesicle appears above the surface of the organ. I have never found them in the substance of the white matter. Sometimes they are encysted, sometimes free in the cellular tissue; some of them have appeared as if they had been dead for some time, for I have found with the shrunken cysticercus an opaque matter filling the cyst.

“As regards the symptoms by which their presence would be revealed, I know nothing positive. Of the causes of their presence we are entirely in the dark, and the remedial measures have yet to be discovered.”