ON THE SURGICAL TREATMENT OF GENERAL PARALYSIS:

WITH NOTES OF A CASE IN WHICH TREPHINING WAS PERFORMED.

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W. F., a male patient, aged 29 years, was admitted into the Banstead Asylum on April 20th, 1889, with well-marked symptoms of general paralysis. He had been a railway guard, and there was a history of a blow on the left side of the head, caused, fifteen months before, by being jerked off the train. No depression could be felt, but he complained of great pain over the region of the blow, which was about 2 inches above the left ear. He exhibited large delusions, there was motor impairment of speech, some ataxy, and the patellar reflexes were very indistinct. As it seemed probable that the injury was the cause of the disease, and it was possible that some injury to the bone might be found, it was determined to trephine over the seat of injury, with the object of relieving pain, draining off some fluid, and lessening pressure. There was no history of syphilis. For the purpose of operation, the man was removed to St. Bartholomew's Hospital, and placed under the care of Mr. Harrison Cripps, whose account of the operation is here given.

Before leaving the asylum, his symptoms were very carefully noted by Dr. Habgood, whose account is as follows: "He walks with feet rather widely apart, bringing the heel down heavily. He cannot walk along a line nor stand with his feet close together without swaying, and not at all with his eyes closed, whilst in turning quickly he loses his balance. The hand grasp is strong on both sides, and the hands, when held out, are steady. Reflexes: plantar well marked, right knee-jerk sluggish, left normal; cremasteric and abdominal well marked. He can distinguish a point, but cannot feel the difference between a sharp and a blunt edge on the legs and arms. Can tell differences of temperature. Optic disc pale, but normal. Right pupil rather larger than left, but both react to light and accommodation. The senses of taste and smell were affected."

On January 27th the operation was performed, and for the following notes of the operation we are indebted to Mr. Bird, House-Surgeon of St. Bartholomew's Hospital:

The whole scalp, being previously shaved, was thoroughly cleansed with soap and water, and was covered with a carbolic antiseptic dressing twenty-four hours before the operation. The patient being placed under chloroform, a semicircular incision was made through the tissues of the scalp down to the bone, extending from the anterior inferior angle of the left parietal bone upwards to the middle line, and then downwards to the posterior inferior angle. The flap thus marked out was reflected from the bone, and turned downwards. Several bleeding vessels were at once ligatured with fine Chinese twist. A trephine cutting a 1-inch circle was applied just in front of the left parietal eminence. The disc removed was moderately thin. A second disc was then cut out, about an inch posterior to the former, the intervening bridge of bone being sawn through and removed. There was considerable bulging of the dura mater. A branch of the middle meningeal artery and some meningeal veins were divided and tied. A portion of the dura mater, arachnoid, and pia mater was now removed over an area somewhat less than the hole in the bone. The scalp flap was then replaced, and accurately united by fine ligatures, a small piece of drainage tube being inserted. An antiseptic dressing was then applied, and the head firmly bandaged.

The wound was dressed on the following day, and the drainage tube removed. In the course of a few days the whole flap firmly united by first intention without any constitutional disturbance.

On his return to the asylum it was noted that his condition had in many particulars improved. The pain in the head had entirely disappeared, and his memory was much better. There was no trace of delusion beyond a certain amount of contentment and sense of well-being. The motor symptoms appeared to be stationary. After being out on trial for a month in the care of his wife, he was discharged on April 18th, there being no mental disease beyond a little dulness to be observed, apart that is from

the motor impairment. It is to be remarked that no convulsions have at any time been noticed either before or since operation, but as is well known, this symptom is often deferred until a late stage of the disease.

On May 14th, in answer to inquiry, I received a letter from his wife, from which it would appear that though the railway company gave him a situation as ticket collector, he has not been able to retain it. She also says that he appears to be suffering from some intestinal complication and is also irritable, whence it would seem that he is in much the same state as when he left the asylum. Was the operation justified in this case?

There is no doubt that some of the painful urgent symptoms were removed, and that the mental state as regards memory was much better, but the motor symptoms appear not to have been relieved. It must be remembered that the symptoms were well advanced before operation was resorted to, and that so far did his insanity disappear that he became responsible, and might safely have been permitted to make a will. In fact, a certificate of insanity could not have been made out against him.

We wish now to record the sequel to the account given in the JOURNAL of the first case, the man who was trephined last July, when in a very advanced state of disease. This patient, it will be remembered, before the operation often had convulsive seizures, chiefly on the left side. After the operation he went on very favourably until September 18th, when he had an attack of faintness with slight numbness of the left hand, which however soon passed off. From this time his mental condition improved greatly; he was cheerful and able to read several hours consecutively, his memory improved, and he had no recurrence of the convulsive attacks. The motor symptoms did not improve. So well did the patient become that from the disappearance of the mental symptoms it became impossible to keep him under certificates, and his discharge to the workhouse was ordered, when on February 14th he had a strong attack of convulsions, and after lying in a comatose state some time he died on February 20th, 1890, six months after operation.

It was noticed that during this last convulsive attack, though there was a little pulsation, there was no bulging over the trephine hole, and this led us to suppose that no benefit would be obtained by opening up the scar. The absence of bulging was accounted for at the *post-mortem* examination, and there is no doubt that it would have been good practice to have again operated. At the *post-mortem* examination, the place of the removed bone was found to be filled with a very dense fibrous membrane (which doubtless prevented any bulging), and about six ounces of fluid were obtained from the brain. The under surface of the above mentioned fibrous membrane was found adherent to the cortex in the middle of the ascending frontal convolution. The mitral valve was thickened, and this may have accounted for the fainting attack already noted.

Whether the fluid found in the brain in general paralysis is primary or compensatory is a question of some interest and importance. There can be no doubt that in both the cases operated upon, the fluid was exercising considerable pressure, as evinced by the marked bulging of the dura mater. Had it been purely compensatory, such intracranial pressure could not have been present. By relieving this pressure, if a cure cannot be obtained, there is great relief, as shown by our reported cases and by that of Dr. Batty Tuke. The cases are too few at present to judge of the risks of the operation, but if as a result a patient improve so much as to be able to make a will (and either of these patients might have been allowed to do this) there can be little question about the operation being considered a success. It must at the same time be owned that some improvement in the time when the operation may be best performed, together with a better knowledge of the size the opening should be made, is possible. Indeed, it would appear from what was subsequently observed in the first case, there would be a better chance of permanently relieving pressure by removing a much larger area, both of the bone and meninges, than we have hitherto done.

In Italy, during March, 1890, 1,618 cases of smallpox were notified, as against 4,210 in the same month last year. The corresponding figures for other infectious diseases were as follows:—March, 1890 and 1889 respectively: Measles, 11,141 and 15,653; scarlatina, 1,435 and 3,266; diphtheria, 1,986 and 2,983; typhoid fever, 1,929 and 2,874; typhus, 118 and 138; puerperal fever, 558 and 844; malignant pustule, 54 and (?); rabies, 7 and (?). There were 16,090 cases of influenza in March, 1890.