

## Clinical Cases.

ABSCCESS IN CEREBELLUM: SYPHILITIC SYMPTOMS: SUDDEN BLINDNESS: GREAT OCCIPITAL PAIN: GREAT BENEFIT FROM CALOMEL: DEATH: AUTOPSY.

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G. R., æt. 46, coachman, admitted to St. Mary's Hospital under the care of Dr. Handfield-Jones on December 27th, 1883, suffering with severe pain in the back of the head and neck, accompanied by retraction of the head.

Patient is a healthy-looking, well-nourished man; is married and has thirteen children, all healthy; his father died of heart disease, his mother of uterine hæmorrhage at age of 54, brothers and sisters alive and well. Was always strong and healthy till four years ago, when he was attacked with rheumatic fever, which confined him to his bed for four months. Following the rheumatic fever, patient was seized with paralysis of right side of body; this, however, passed away entirely, but two years ago an attack of total blindness, accompanied by mental aberration, came on suddenly; for this he was eight weeks in Maidstone Hospital. The total blindness lasted about two weeks, and then sight was gradually fully restored. Syphilis is positively denied, but there are two places on lower part of left leg which look like the scars of rupial sores, and higher up on tibia of same leg is a large node; over crest of the left ulna is another node. There is a scar on the centre of the sternum, which has existed for a long while; patient says he had a sore there which came by itself, and after some time discharged a small piece of bone.

Patient is very deaf, and has been so for many years; he talks apparently quite rationally, but his own account of his illness is not trustworthy. According to his wife's statement, he has suffered for at least four months with sickness and pain in the back of the head on rising from bed in the morning; during the last three or four weeks there has been severe pain in the back of the head and neck. The pain comes on in fits,

which last two or three minutes, and are accompanied with retraction of the head. On December 24th, while at home, patient was very noisy and delirious; lately the attacks of pain have become much more frequent, recurring every half-hour or so. During the past week he has suffered with constant sickness; the bowels have not been open since December 19th, but he says he often goes for a fortnight without passing any motion, and for two days without voiding urine. There is no evidence of any accumulation in bowels or bladder; but patient has a stricture, which will not admit a No. 6 catheter. Heart, lungs, and other organs apparently quite healthy. Well-marked optic neuritis in both eyes; pulse 74, forcible, regular, not easily compressed; tongue coated, is protruded slightly to right; temp. 98.2; urine, straw colour, acid, sp. gr. 1035, no sugar or albumen, deposits crystals of oxalate of lime, contains some mucus and epithelium, total amount in twenty-four hours scanty. *R.* Calomel gr. v statim; leeches (12) to back of head; pot. iod. gr. x + pot. bromid. gr. xx + aq. 3j, t. s. d.

*Dec. 28th.*—Patient passed a fair night, but the pain in the head was very bad at times; the attacks of pain occur rather less frequently. Vomiting took place after breakfast. Temp. this morning, 97.5. There was free bleeding from the leech-bites last night. *R.* Pil. hyd. c. col. gr. x statim; simple diet; beef jelly, O j; milk, O ij; ol. crotonis, mj + Ol. ricini, 3ss.; 3ij to be taken at a time.

*Dec. 29th.*—Patient is fairly rational, complains of great pain in the back of the head, says he feels worse, but the attacks of pain are not nearly so frequent. The bowels have been open after two doses of croton oil and an enema. Pulse 84; temp. 97.5. Blister (3 × 3) to back of neck.

*Jan. 3rd.*—Had severe pain on night of 31st, but very little since; has been taking potass. iodid. in gr. xx doses, also calomel in gr. j. doses three times a day since December 31st. Is sufficiently rational now to help himself to food, but passes his evacuations under him, and seems to have no recollection of it. Shows his tongue and does what he is told. Pulse 93, fair force; regular, constant, and seems to have power over his limbs; no paralysis. Repeat blister to back of neck.

*Jan. 5th.*—Is much more rational, passed a very good night, is able to open his locker and get at food he had left. An enema was given to-day with much ado, patient struggling violently and shouting murder, thieves, &c. A few hours later he protested that he had not shouted at all. Still passes all his evacuations in bed. Pulse 108, soft, regular, no ptyalism.

*Jan. 8th.*—Has more pain to-day in back of head and neck. Retraction of head more marked; evacuations passed in bed; patient less conscious. Leeches (12) to back of head; calomel gr. j, quater die; potass. iodid. gr. xxv + pot. bromid. gr. xxv + aq. camph. ʒj, quater die. Temp. last night, 97·8; this morning, 97·5. Pulse 80, full and forcible.

*Jan. 10th.*—Spasms of the neck are very marked; arching of the neck is very distinct. Patient not more conscious; was awake all night, but is dozing now. Rep. mist. c. potass. iodid. gr. xl. Calomel, gr. j, semel die.

*Jan. 21st.*—Patient has been passing quieter nights since last report, but is still very stupid and troublesome at times. The arching back of the head is still well marked. Pulse 58, interrupted by a pause about every eight or nine beats. Temperature this morning, 97. Since the 14th inst. he has taken ol. morrh. ʒj, semel die; yesterday he was ordered calomel gr. iij, ter die; pot. iodid. gr. vj + aq. ʒj, omni hora.

*Jan. 25th.*—Not much change since last report. Constipation has been troublesome, but has yielded to  $\frac{1}{2}$  m doses of croton oil. At 4 A.M. this morning, patient was suddenly taken worse. Æther and ammonia were administered every quarter hour, and a sinapism applied over the heart. He has rallied and is now sleeping. The iodide mixture has been stopped.

*Jan. 28th.*—Patient much more rational. Gets up of his own accord to pass his motions. Recognises his wife and child. His wife notices how much more clear he seems in his head. R. Ammon. carb. gr. v + tinct. cinch. co. ʒj, + infus. cinchon. ʒj, quater die.

*Feb. 1st.*—Yesterday was suffering severe pain at back of head and neck, the latter was much arched back; pulse about 80, very irregular; was ordered calomel gr.  $\frac{1}{2}$  duabus horis. To-day seems quite free from pain, and the head is not drawn back. The bowels are open naturally and he gets up to evacuate. Patient has his spectacles on and is trying to read his newspaper, but does not seem to make much sense of it. Pulse 93, soft, regular.

*Feb. 14th.*—No pain whatever in head. Wishes to go out. Moves head freely in all directions. Gums touched by mercury. Reads newspaper fairly well, so as to be intelligible to a bystander. Mental faculties quite clear now, memory returning. Left pupil noticed to be rather larger than right. Pil. calomel semel die.

*Feb. 18th.*—He has been steadily improving since the last report, and gets stronger every day. Says he feels better than at any time since admission; his memory has quite

returned, and his mental faculties seem perfect. Gets up at 6 A.M., and remains up all day; he walks somewhat feebly, but there is no entangling of feet or anything specially noticeable in his gait. Pulse 88, good force, regular. Temp. last night 98·6, this morning 98·8. Has suffered since last report with an attack of diarrhoea, but the bowels are acting well now. Both eyes to ophthalmoscope show fundus blurred and hazy; no disc can be defined, and only a feeble, whitish, irregular patch; retinal trunks look large and hazy, small vessels not seen. He reads fairly well with glasses.

*Feb. 22nd.*—Patient has been failing since the 20th inst. Has complained of much frontal pain and suffered much with diarrhoea. Deafness rather increased. Undue fulness of frontal veins noticed. Yesterday it was observed that he seemed to have lost control over the sphincter ani, the bowels seem to act before he is aware of it. Last night he suffered much with pain at the back of the head; this has now passed off; the attacks of spasm and arching back of the head have returned, together with more or less of all the old bad symptoms. The diarrhoea is still troublesome, but only in the early part of the morning. Pulse 84, full, regular. Temp. last night, 98, this morning, 97·6. Urine passed involuntarily into bed during night. Has returned to the calomel gr.  $\frac{1}{4}$  ter die.

*Feb. 23rd.*—Much pain over the top of the head; headache more frontal now than at back. Pulse at 3 P.M., 63. Temp. 98. R. Calomel gr. j, duabus horis. Patient was seized with sickness at dinner-time; vomiting continued on and off till evening. Death at 7.20 P.M. apparently from cardiac failure.

*Post-mortem examination on Feb. 25th.*—On opening the skull, the convolutions on the convexity of the brain are seen to be much flattened; the sulci are obliterated, the superficial veins engorged. On attempting to remove the brain the right half of the cerebellum was found firmly adherent to the dura mater of the anterior portion of the posterior fossa, so that the dura mater was taken away with the cerebellum. Much fluid escaped from the rupture in the floor of the third ventricle produced during removal of the brain. The right lobe of the cerebellum, contained two abscess cavities lined by a pyogenic membrane, evidently not of very recent date. The cavities were close beneath the surface (rather nearer the upper than the under part) of the cerebellum, separated from each other by a septum  $\frac{1}{4}$  inch thick of tough brain-substance; both contained thick green pus. The dura mater corresponding to site of abscesses was adherent to the cerebellum over a space equal to the size of a crown piece, and was much thickened by tough, translucent-looking material, probably gummatous in

origin and of the same nature as the morbid growth to be afterwards described on the periosteum of the tibia and ulna. The pia mater covering the cerebellum was thickened, especially near the site of the abscesses so probably blocking the foramen of Majendie and leading to distension of the ventricular system. In both eyes there was well-marked papillitis, though this was more apparent in right than in left; numerous small hæmorrhages were also well seen. The lungs, liver, spleen and kidneys were all intensely congested.

In connection with the periosteum of the left tibia there was a gumma equal in size to a walnut; on section, the centre was seen to be almost diffuent, while the outer firmer part was composed of grey, translucent tissue of a tough consistence. A gummatous growth of a similar nature was found in connection with the upper third of the posterior surface of the left ulna.

The morbid anatomy and pathology of the case recorded above are written in plain and distinct characters. In spite of his assertions to the contrary, it is clear that the patient had contracted syphilis at some period of his life; the scar on the sternum from which dead bone had been discharged, the gummata on ulna and tibia, the deposit in the dura mater over the site of the abscesses, are all so many definite and undeniable proofs. Again, it is obvious that the abscesses in the right lobe of the cerebellum were due to retrograde changes taking place in a mass of gummatous deposit, also that the distension of the ventricles causing flattening of the convolutions and obliteration of the sulci was caused by an accumulation of interventricular fluid, the escape of which was impeded by the pressure of the pia mater, thickened by inflammatory deposit, on the foramen of Majendie. Leaving, however, these clear and certain facts, we cannot fail to be struck by certain points in the history of the case, points which though of great interest in the clinical history, are yet by no means easy of interpretation:—thus, from what period in the history of the patient are we to date the onset of troubles due to specific cause? why with such a well-marked tumour were so many orthodox symptoms of cerebellar disease absent? can we fix the date of the onset of suppuration in the cerebellum, and can we account for the rapid return of all the bad symptoms, followed by death, when the patient seemed to all intents and purposes well out of the wood? The history given shows that the man was strong, able-bodied, the father of a large family, and in perfect health till four years ago; then comes an attack of rheumatic fever which confines him to his bed for four months, and following the rheumatic fever is an attack of right hemiplegia; now was this attack of rheumatic fever genuine

and true, followed by a hemiplegia due maybe to cerebral embolism, or was syphilis once more proving itself the great imitator, and during those four months of mimicry laying down an intracranial neoplasm, which by its inhibitory effect on the brain functions should produce the right-sided paralysis recorded? The history of this period is unfortunately faulty, and we have no report of the progress of the disease or treatment adopted, nothing but the bare fact that he got to all appearances perfectly well, and remained so until two years ago. One point we may call attention to, viz. the heart was carefully examined while the patient remained in the hospital, and at no time was anything abnormal noticed in the sounds; this fact alone militates against the idea of a rheumatic fever of four months' duration followed by hemiplegia presumably of embolic origin.

The next stage in the history of the case dates back to two years ago, when an attack of sudden blindness, lasting two weeks, and accompanied by mental aberration (extending over two months), is noted. This loss of vision is interesting in connection with the papillitis, which was demonstrated during life and at the post-mortem; if Schweller's view as advocated by Dr. Hughlings-Jackson be accepted, it is highly probable that this early and brief loss of sight was due to a reflex inhibitory influence exerted by some fresh activity or change in the growth or relations of the cerebellar tumour. Such an explanation is in no way incompatible with the idea, first put forward by Manz, that dropsy of the intersheath space of the optic nerve was the cause of the optic neuritis recognised during the patient's last illness. The inhibitory influence exercised at the early period would be lost, as soon as the brain tissue adapted itself to its new relations with the tumour, or maybe as soon as certain active changes in the life of the tumour ceased, while the influence of the increased intracranial pressure, demonstrated post-mortem, would have a lasting influence on the nutrition of the optic nerves. The presence of mental aberration is probably to be accounted for in the same way by a temporary inhibitory influence brought to bear on the higher cerebral functions: that the action of specific treatment may have had an important bearing on the duration of the blindness and mental derangement is of course to be borne in mind.

Coming now to the third or last stage in the patient's clinical history, we find that during the four months preceding admission to the hospital the patient had been steadily going down hill. His wife reports, that on rising in the morning at 6 A.M. he would go down to the stables to groom his horses, clean his harness, &c., but after some half-

hour's work would become so faint and dizzy, and have so much pain in his head, that he would be obliged to give in until after breakfast, when he would revive and be able to go out driving. By degrees this early morning faintness and pain in the head grew worse, and on rising from bed she had to give him strong beef-tea and a cup of strong coffee before he could start work; then gradually the pain in the head, especially at the back, became more continuous, till he experienced it all day long, and had at times to come home and lie down. The last three weeks before admission there was severe pain at the back of the head and neck, the pain coming on in fits, lasting two or three minutes, and accompanied by retraction of the head; towards the end of this time, i.e. shortly before his admission to the hospital, the higher cerebral functions were again attacked, and delirium with loss of memory is recorded. From this period till the date of death, the patient was under medical observation, and we have his symptoms accurately recorded. Some of these symptoms are such as we should clearly expect to be present, such as the constant vomiting, the pain in the head, the retraction of the neck, the constipation, the optic neuritis; but there are others which, in the light of post-mortem knowledge, we might equally have expected would not have been conspicuous by their absence. Thus at no time do we find the ataxic walk, the feet becoming entangled one with the other; no irregular movements of the eyeballs are recorded; there is no observation made as to the existence of tonic convulsions. Regarding the two latter symptoms, there does not seem to be any good recognised reason why they should be present in some cases of cerebellar disease and absent in others; but as regards the ataxic walk, I find that in a series of fourteen cases, notes of which I have by me, in only two instances was this symptom present, and in both these patients the mischief was very extensive and involved the central parts of the organ. With respect to the abscess in the cerebellum, the condition of the pus, thick, green and curdy, showed plainly that suppuration had occurred some considerable time previously; and as the temperature during his stay in the hospital was throughout subnormal, and none of the usual signs of suppuration setting in ever manifested themselves, it is highly probable that the purulent degeneration had taken place previous to admission. The extremely diffused condition of the central part of the gumma on the tibia showed how ready the new tissue was to degenerate into pus; and granted a similar condition in the central part of the brain deposit, it is quite possible that the degenerative condition may have gone on so gradually that severe constitu-

tional disturbance was at no time excited. Nothing could have been more marked than the steady improvement which took place from February 1st to the 20th of the same month, and it may reasonably be suggested that the exhibition of small but continued doses of calomel played an important part in bringing about so very marked a gain, especially as all the bad symptoms returned on the drug being gradually dropped. It is plain, however, that the attack of cardiac syncope on the afternoon of January 25th showed on what precarious tenure life was held, and it was probably to some similar inhibitory influence brought to bear on the heart, that the death of the patient on February 23rd was finally due.