

plegia; it differs from it in the presence of cortical adhesions, and in the character of the mental affection during the period before the paralysis.

Rupture of a Basilar Artery, &c., in a Case of Syphilitic Insanity. By Dr. M. D. MACLEOD.*

The subject was a female, aged 47, who had an attack of syphilis three years before her admission in July last. She laboured under great depression, irritability, suspicion, and delusions that people plotted against her, that she was to be hanged, &c. She was thin and anæmic. Had slight ptosis of the right eyelid. For the first six weeks treatment was unsuccessful in her case. During September she had a transient attack of paralysis of the left hand and arm. Latterly she improved both in her mental and bodily states under the use of potassium iodide and quinine and iron. She had a sudden and very severe attack of apoplexy on the morning of the 11th November, from which she never regained consciousness, but died on the same evening.

Post-Mortem Appearances.—The skull cap was very hard. There was a small exostosis on the petrous portion of the left temporal bone. The vessels of the membranes were engorged with dark blood. A large effusion (8 to 10 ounces) of blood had taken place over the base of the brain, chiefly over the pons Varolii. The arteries of the base were very atheromatous, and a small opening was found in the basilar artery, near its termination, from which the blood had flowed. There was a small aneurism on the right middle cerebral artery. The smaller vessels in the substance of the brain were dilated and full of dark clot. The brain substance was firm and dark in colour. The other organs were apparently healthy. The Spleen was multiple, there being three such organs, each having its proper complement of vessels, which sprung from and united into a common trunk.

Embolism of the Cerebral Arteries—Softening of the Pons Varolii. By HENRY CLARKE, L.R.C.P., Surgeon to H.M. Prison, Wakefield.

Elizabeth W., æt. 35, married, three children, one living, two dead, one at four months old, from "fits," the other at six months, from "water on the brain." No miscarriages. Patient states that she never had a day's illness in her life. She was committed to prison Dec. 31, 1877, and up till the commencement of her present illness, has been

* Specimens exhibited at Edin. Quarterly Meeting—See Notes and News.

quite well, except that for the last few weeks she has suffered from a constant pain at the back of her neck. On February 20th, 1878, about 11.30 a.m., while sitting in her cell picking oakum, she felt a sudden numbness in the right hand and arm, and almost directly afterwards found that she was unable to speak, or move the right arm or leg. There was no loss of consciousness. She was seen within ten minutes of the attack, and had then partly recovered her speech, but still spoke thickly and indistinctly. Had regained power in the leg, but only partially in the arm. Sent to hospital.

Feb. 21st.—Has left facial paralysis. Complains of her right arm being still weak, but can grasp with it as well as with the left. Has completely regained her speech, and slept well during the night. Appetite good. Careful examination failed to detect any nodes, scars, or other evidences of syphilis; and no specific history could be gained by questioning the patient. Chest examined and found perfectly healthy, heart sounds being clear and distinct. Temp. 98.4, P. 90.

Feb. 22nd.—This morning had a second attack of right hemiplegia and aphasia, without loss of consciousness. It lasted only a few minutes, but the right arm still (midday) remains weak.

Feb. 23rd.—Had considerable sickness during the night, but brought up only a little watery fluid, mixed with the contents of the stomach. Is now lying quite helpless. Has paralysis of limbs on both sides, complete on the right, partial on the left. Reflex action can only be excited by a very deep prick, and then the movement is but slight. Mumbles inarticulate noises when spoken to, but occasionally and with difficulty can make herself understood. No loss of consciousness. Took her food well up till this morning, but refused her breakfast. Squints naturally, but pupils are now equal and of ordinary size. Passes her water in bed. Left side of face still continues paralyzed.

Feb. 24th.—Slept well last night; has ceased to wet her bed, and can turn and move about again without assistance. Has, to a great extent, regained power in right arm and leg. Can hold left arm up, but has no power of grasping with the hand. Can flex the left leg slightly, and talk so as to be understood. To avoid repetition, it may be stated here that the temperature and pulse were taken constantly throughout the case, and that the former varied—except where specially mentioned—only between 98.0 and 98.4 Fahr., and the latter between 90 and 95.

Feb. 27th.—Had no sleep, and was very restless all night. To-day she is quite helpless again, cannot sit in bed without being held up, or turn on her side without assistance. Talks very thickly and indistinctly, saliva runs from her mouth in considerable quantities, but she can swallow her food well. Passed everything under her during the night. Has complete paralysis on right side, and very nearly so on the left. Can protrude her tongue only slightly, and apparently with great difficulty. Right pupil is slightly smaller than left.

Feb. 28th.—Had little or no sleep during the night, but kept up a constant loud groaning, or querulous crying noise. Has completely lost all power of speech; is quite sensible, and nods her head when questioned. Both sides of the body are completely paralyzed, there is considerable rigidity of the right arm, and to a less extent of the left. Cutaneous sensibility does not appear to be diminished anywhere. Breathing is stertorous. Cannot protrude her tongue at all. Right pupil still remains contracted. Can see and hear perfectly well. Can swallow, but apparently with some little difficulty, as she allows the milk to remain in her mouth a short time before making the attempt. Has taken much less food since last report.

March 1st.—Remains in same condition as yesterday, was very noisy and restless all night. Face looks puffy and swollen, especially on the right side.

March 2nd.—Has lost all power of swallowing, and has to be fed by nutrient enemata. Is quite conscious and sensible. Stertorous breathing continues. Right pupil considerably more contracted.

March 3rd.—Was quiet, and slept comfortably the greater part of the night. Has regained her power of swallowing. Made signs for and used the bed pan, but still passes part of her water under her. Can protrude her tongue slightly again. Right pupil even more contracted than it was yesterday.

March 5th.—Very restless all night, keeping up a constant querulous cry, and continually wanting to be turned in bed. All the other conditions remain as before.

March 6th.—Complains, by signs, of pain in her head, which cannot be localized. Makes no attempt at all to speak. Passes everything under her again. Has considerable diarrhœa. Temp. 97.3.

March 10th.—Diarrhœa has ceased. Opens her mouth, and makes an attempt, when asked, to put out her tongue, but cannot protrude it at all.

March 11th.—Cutaneous sensibility much diminished in all the limbs, and equally on both sides of the body.

March 14th.—Can protrude her tongue a little to-day. Takes her food well. There is considerable rigidity of both arms and legs.

March 15th.—Face looks much brighter. Can flex her legs a little, but has no power over her arms. Opens her mouth and tries to speak, making a somewhat inarticulate noise which can be understood to be meant for "no." Pupils are more equal, but both contracted.

March 16th.—Can flex both legs without much difficulty, arms still quite powerless. Facial paralysis less marked. Can say "yes" and "no" fairly distinctly.

March 17th.—Last night she had two "fits," described by the nurse as having the following character:—The eyes were fixed and staring; the limbs extended and rigid, the legs completely, the arms only partially. Patient appeared to be quite unconscious. Mouth worked with an upward and downward movement. No unilateral

twitching or convulsion; was quiet while it lasted, and breathing did not seem to be affected. The first "fit" lasted from 2.30 a.m. to 4 a.m., and the second, later on, only for a few minutes. This morning there is no alteration in the general symptoms. Temp. 97.6.

March 18th.—During the whole of last night she is said to have had a continuous succession of "fits" of the character described yesterday, lasting only a few minutes each, and with very short intervals between. This morning she seems to have lost ground again; is much less bright, and makes no attempt to speak.

March 19th.—Was exceedingly noisy and troublesome during the night, but had no recurrence of the "fits."

March 20th.—Rigidity of limbs is considerably lessened. Pupils are nearly equal, opens her mouth when asked, and makes an ineffectual attempt to protrude her tongue.

March 22nd.—Has regained partial power over her legs. Can extend left arm easily, but cannot flex it. There is a perceptible movement in the right arm when she tries to extend it. Can protrude her tongue well beyond her teeth. Does not wet her bed so frequently.

March 26th.—Has wonderfully improved since last report. Can talk now, thickly, but so as to be understood. Has been talking and laughing all day for pleasure at her regained power. Can protrude her tongue very easily to its full extent. Facial paralysis is only just faintly recognisable. Stertorous breathing has disappeared. Power over the limbs remains as before, except that she can flex her right arm now as it lies on her chest, but cannot move it from her side.

March 29th.—Is not so well again. Managed to say "yes" and "no" early this morning, but has now entirely lost her power of speaking again, is very noisy and troublesome, and passes everything under her. Has only a very limited power of movement over her arms.

March 31st.—Has again regained her lost ground, and is now in the same condition as described on the 26th inst.

April 9th.—No variation in the symptoms since last report—except, that she has been very noisy and restless at night, and latterly has been sweating very freely—until to-day. She took her breakfast this morning, when she appeared to be as usual, but has since rapidly changed for the worse. She is now—12 noon—lying on her right side, with slightly stertorous breathing. Did not appear to recognise her husband, who came to see her. Can be roused with difficulty, but has lost all power of speech. Both pupils very contracted, but the left more so than the right. Conjunctiva only slightly sensitive. Complete paralysis of both arms and legs. Rigidity has entirely disappeared, and reflex action quite gone.

April 10th.—Improved a little yesterday evening, took her supper, and commenced her usual noisy cry. About 9 p.m. she became quiet, passed into a state of coma, and died at 6.15 this morning.

The post-mortem was held the same afternoon, and the following is a brief description of the morbid appearances:—

Brain. Weight $4\frac{1}{2}$ oz. The arachnoid generally thickened and opaque; considerable injection of the smaller blood vessels on both sides over the posterior half, but more especially on the right. The cut surface of the white matter full of dark points—*puncta cruenta*—the injection being distinctly more marked over the posterior half of the right side, the basilar artery was plugged through the greater part of its length, the clot being free and softening down at its distal extremity, firmly adherent to the walls of the vessel by its proximal. The right communicating artery was quite impervious, being converted into a fibrous cord. The right Sylvian artery was plugged at its commencement. The corresponding arteries on the left side and the other vessels at the base of the brain were free. No atheromatous or other deposit could be detected in any of the arteries of the brain. The grey substance appeared everywhere healthy, and several portions from different localities, examined under the microscope, showed no structural change. The ganglia at the base of the brain were healthy. The greatest alteration was found in the pons varolii, a considerable portion of the centre of which, but more on the right side than on the left, was soft and almost diffuent; both in its general look and microscopic appearances, showing all the characteristics of acute red softening. The medulla was healthy.

The skull was of ordinary thickness and consistency. There were no nodes, but the grooves for the vessels appeared a little deeper than usual.

Chest. Few old pleuritic adhesions on both sides; bases and edges of both lungs emphysematous. Lower lobe of right in an early stage of pneumonia. In the upper lobe of the right lung, and in the lower lobe of the left, were two small pneumonic patches of a wedge-shaped form, with their bases towards the surface, and clearly of embolic origin. Lungs otherwise healthy, but congested.

Heart. Weight 8 oz. Small; a small quantity of soft P. M. clot in right ventricle, valves perfectly healthy, muscular substance healthy; pericardium healthy, excess of fat on exterior. Aorta healthy, smooth and elastic. Larynx healthy. Considerable quantity of thick mucoid secretion in larynx and bronchial tubes. Main divisions of bronchi injected.

Liver. Weight $5\frac{1}{2}$ oz. Large, smooth, bulky, mottled on the surface, fatty on section.

Kidneys. Weight 10 oz. Slight thickening and adhesion of portions of the capsules, but organs healthy on section.

Spleen. Weight $8\frac{1}{2}$ oz. Large, firm, congested.

Uterus. Bulky. Injection and abrasion of mucous membrane at fundus. Quantity of old firm adhesions connecting the right side of uterus with corresponding fallopian tube. Considerable sized cysts in both ovaries.

Remarks.—Apart from the interest due to nervous affections generally, when occurring among criminals, the above case was thought to be worth recording, as a good example of a not very common form of cerebral disease. There was some little doubt at one time in the minds of those who saw the woman during life, as to the exact diagnosis. The first onset of paralysis without loss of consciousness, the interval between the hemiplegia and the facial palsy, the somewhat random association of symptoms, and the marked improvement under treatment, lent some degree of plausibility to the view that the case might be one of syphilitic disease of the vessels. But taken in its entirety, there could be no doubt of the existence of a gross lesion of the pons. The most interesting points—in addition to the ordinary paralytic-symptoms—being the excessive flow of saliva, the early occurrence of rigidity, and the marked emotional incontinence, a crying querulous manner, lasting for several days, giving place to what might almost be called playfulness, and a readiness to laugh at the slightest thing—symptoms which have been more than once described as significant of disease of this part of the brain. It is much to be regretted that the woman's eyes were not examined during life with the ophthalmoscope, as the fact of her vision being good when tested, as it was, in the ordinary way, did not necessarily preclude the possibility of the existence of optic neuritis. Under the first impression that the disease might be syphilitic, iodide of potassium was given in gradually increasing doses, and the improvement at one time was certainly very remarkable, the reason of it is not quite so clear. The cause of the clotting in the vessels was also left in doubt, the heart being perfectly healthy, and the cerebral arteries free from atheroma. In the absence of cardiac disease, the case is analogous to two others referred to by Dr. Dreschfield, in "The Medical Times and Gazette," for May 1878. The first is related by Dr. Ogle, in the "Pathological Transactions," Vol. xii., 1860. His patient was a man *æt.* 40, who fell in the street in a fit, and was brought to the hospital suffering from facial paralysis and left hemiplegia. The P. M. showed softening of the pons, and total occlusion of one of the cerebellar arteries. The basilar artery was atheromatous; heart valves free. The second case is recorded by Darolles ("Bul. de la Soc. Anat. de Paris," 1875). There was softening of the right half of the pons due to obliteration of the basilar artery in a patient *æt.* 38, heart valves being normal.