

evidence in favour of the use of the aspirator. In the first place, it unquestionably relieved the tension of the abdomen, and thereby enabled the bowels to act; and, secondly, its use was not followed by any inflammatory action.

Humberstone, near Leicester.

## CASE OF HEMIPLEGIA WITH GREAT DEPRESSION OF TEMPERATURE.

By BEVAN LEWIS, L.R.C.P. LOND.,

PATHOLOGIST AND ASSISTANT MEDICAL OFFICER, WEST RIDING ASYLUM.

J. W.—, aged forty-four, was admitted into this asylum suffering from a slight attack of excitement. It was stated by his friends that for the past twelve months a mental change had been perceptible. He became restless and agitated, wandering about his room at night, and refusing to go to bed. From being a quiet reserved man, he became unusually talkative. About five months ago he was admitted into the infirmary at Leeds for a serious dislocation of the left shoulder, and remained there for about three weeks, during which time it was observed that his mental powers were rapidly failing him. He has had several attacks of excitement, during which he has threatened to drown himself; but he has never made any actual suicidal attempt, although frequently expressing his wish that he were dead. Of late his memory has failed him greatly, and as it was observed to become defective he became quieter and more taciturn. He has never given evidence of delusions. He has been greatly addicted to drinking for many years. Prior to the present attack he had had no serious illness. There is no history of epilepsy or cranial injury. The family history is good, and exhibits no hereditary predisposition; his father, however, is stated to have had two apoplectic seizures prior to his death at the age of sixty.

*Present mental state.*—On examination it is found that he exhibits a considerable amount of dementia; his memory chiefly fails him with regard to time; when asked when he injured his shoulder, he says "Five weeks ago." He does not know where he is, gives the place another name, and shows no curiosity or interest in his surroundings. He is quite unconscious of any mental defect, and says his memory is as good as it ever was. He attributes his inability to follow his employment of late to a slight depression, and affords no clue to his possession of delusions or hallucinations. Since admission he has been quiet at nights, has slept well, and has been cleanly and orderly in his habits.

*Physical examination.*—Height 5 ft. 5½ in.; weight 138 lb.; head symmetrical; hair brown, turning grey; eyes grey; slight inequality of the pupils, the left being rather more dilated than the right. There is much want of expression on the right side of the face, and the mouth is drawn to the left side when he laughs. He is in fair bodily condition and is free from bruises or eruptions. The grasping power of the right hand is slightly less than that of the left; this he attributes to rheumatism. There is no dragging of the foot or any characteristic feature in his gait, but he does lean slightly to the right side. According to patient's own statement, he had a stroke three years ago, and lost the power of his right side for some weeks, but, owing to his advanced dementia, this statement is wholly unreliable. The further examination reveals nothing unusual in the condition of the circulatory, respiratory, or alimentary systems. The diagnosis of this case was of course dementia, probably associated with the presence of an old clot in the left corpus striatum.

*Progress of the case.*—The entries in the case-book for the ensuing two months present nothing of importance to note; but on the morning of the 25th of November patient is stated to have had a paralytic seizure. The mouth was now drawn strongly to the left side, the tongue protruded to the right, and there was much thickness of speech and difficulty in articulation. Common sensation was greatly impaired in the soles of both feet, there was much insensibility to pain, and reflex excitability very much diminished. No muscular

movements ensue on sharply pricking the integument over the facial muscles of the left side. The pupils are both small, the left the smaller of the two. The respiration is slow and jerking; the pulse very weak, and 105 per minute.

Nov. 29th.—This morning his speech was much more affected, and nothing that he says can be made out. Sensibility in the soles of the feet, however, is much improved, and there is also far more reflex excitability apparent. The breathing is laboured, and 19 per minute; the pulse 80, and weak. Hands and feet extremely cold, and the temperature of the left axilla was found to be 92·6° Fabr., that of the right 92·4°. This evening the symptoms remained unaltered, but the temperature in the right axilla was 93·2°.

30th.—His general condition remains unaltered, and the temperature of right and left axillæ is 92·4° and 92·6° respectively.

Dec. 1st.—In a semi-comatose condition. There is dulness of right side of chest posteriorly, and the breathing is heavy and slow. The reflex action of both legs remains tolerably good. Temperature in right axilla 96·6°.

2nd.—Lies on his back with his mouth wide open, and breathing very heavily, 32 per minute. The pulmonary complications have still further developed themselves. There are loud mucous râles in the trachea. He is apparently quite unconscious, and there is no reflex action on irritating the eyeball. The soles of the feet appear at times unusually sensitive to reflex excitation. The temperature in both axillæ 104·2°. This evening he is more conscious, squeezes the hand when asked to do so. The pulse 104, and regular; respiration 40. The temperature has again fallen to 95·4°.

3rd.—This morning he is apparently *in articulo mortis*; breathing rapidly (56 per minute), with loud mucous râles in the trachea. When spoken to loudly he shows some signs of consciousness. The tongue is dry and brown. Reflex excitability of feet remains normal. Pulse 120, and regular in strength and frequency; temperature in right axilla 97°.

4th.—There is total inability to expectorate the accumulating bronchial mucus, the dyspnoeal symptoms are therefore exceedingly great. There is no determinable loss of power in the arms, and reflex action is still good and at times acute. He is semi-comatose, but can still be roused, and even appears to understand what is said to him. For several days past he has had five nutrient enemata administered every twenty-four hours, and brandy and milk given by the mouth. At the tea visit this evening the pulse was 132, the respiration 60, and the temperature 100·4°. At the night visit the pulse had risen to 140, the respiration was 60, and the temperature 100·4°.

He died at 3·15 A.M. on Dec. 5th. The following is an abstract of the post-mortem examination.

*Section cadaveris, sixty hours after death.* (Weather cold and frosty.)—Head: Skull of average thickness, but dense and hard, capacious and symmetrical. The dura mater is not adherent, and the sinuses contain dark clots and fluid blood. The arachnoid is neither thickened nor clouded, nor do the convolutions present any traces of wasting. The pia mater is thin, strips freely, and presents no points of attachment. The whole brain weighs 1667 grammes. The large arteries at the base are of an unusually large calibre, and studded with numerous atheromatous patches. On cutting into the brain-substance, it is found to be tolerably firm in consistence, and the grey matter is of average depth and normal colour. In the centre of the left corpus striatum there is a recent dark-red clot, of diamond shape, half an inch in length by a quarter of an inch in breadth; it lies across the corpus striatum, its long diameter being at right angles to the long diameter of that body, and at a point about midway between the anterior and posterior ends of the ganglion. Behind this clot, which is of thick, pulpy consistence, the substance of the corpus striatum is very soft and pulpy, exhibiting a brownish tinge. This softening, however, does not trench in the slightest degree upon the optic thalamus. There is also a small round dark clot, about a millimetre and a half in diameter, on the under surface of the left corpus striatum, or more exactly the caudate nucleus or intra-ventricular portion. There are no clots in the right hemisphere or the ganglia at the base on this side. It is unnecessary to enter into the details of the examination further than to remark that, of the thoracic and abdominal viscera, none showed any evidence of disease except the lungs, which were in

part congested and œdematous, and the bases involved in hypostatic pneumonia.

*Remarks.*—The case just recorded bears the usual features of hemiplegia from sanguineous apoplexy, followed by failure of the higher mental faculties, loss of memory, volitional control, as well as decided emotional implications; nor were any especially noteworthy or unusual symptoms presented until the apoplectic seizure occurred at the asylum. In this last attack, which was one of right hemiplegia, involving the facial muscles as well as the muscles of articulation, there was much anæsthesia and analgesia of the extremities, the left leg also participating in this condition. There was no external strabismus, but the pupils, and especially the left, were strongly contracted, whether from a paralysed condition of the sympathetic, or transmission of the irritation downwards to the locus niger in the crus, remains an open question. The temporary loss of reflex excitability is also very interesting. It has been affirmed by Dr. Crichton Browne that abolition of reflex action as a permanent result is especially connected with destructive lesions of the optic thalamus, and the ratio of its loss is in direct relation to the amount of destruction to which this ganglion is subject. An exceedingly interesting paper on this point, by Dr. Browne, appeared in the West Riding Asylum Reports for 1875, in which this statement is supported by several notable instances of such cerebral lesions, and the more probable explanation of these phenomena are adverted to, eliciting questions of a most important character. The author also here gives confirmation to a fact which we constantly recognise in cases of hæmorrhage into the ganglia at the base—viz., that there is an immediate fall of temperature on the affected side of the body. Several cases observed by myself have later on exhibited a rise above the normal standard, but this is readily explicable, as Dr. Browne believes, on the ground that sufficient time has elapsed to develop a zone of inflammatory softening in the neighbourhood of the clot. The fall of temperature in these cases is not, as a rule, considerable, and the extreme depression of the mercury in this case therefore constitutes a highly interesting and instructive phenomenon. Such cases as these afford the strongest presumptive evidence of the existence of a vaso-motor centre in the brain, and its close connexion with both the sensory and motor ganglia at the base; and still more impressed must we be with this view when we take into consideration the frequent alterations in vascular tonus in the paralysed limbs, the rapid and not infrequent development of pemphigus and other abnormal conditions of the nutritive apparatus of the part affected. The localisation of this vaso-motor centre is an extremely interesting physiological question, and one which has already occupied the attention of several continental authorities. I have already endeavoured to show that certain discharging lesions of the cerebrum are accompanied by marked alterations in the temperature of the body, and that these thermal disturbances do appear to be correlated with a simultaneous depression or excitation of cerebral action. The case now before us, however, presented none of the phenomena of irritation; there was really wholesale destruction, and the effects accruing coincide with what would be expected to occur in destructive lesions. In both cases, however, it appears to me, from a close study of the resultant phenomena, that the thermal disturbance is most marked when one side of the brain suffers than in lesions of the opposite hemisphere, the left hemisphere being accompanied by a far more marked result in this direction. That this disturbance in temperature would differ notably according to the hemisphere affected has been presumed by Dr. Hughlings Jackson, and mentioned by him to me some months ago, and his vast clinical experience amply justifies the importance which I would therefore attach to this opinion. Clinical experience may here, however, be usefully supplemented by experimental physiology, and the data thus obtained have always borne evidence to the truth of this theory. Destructive lesions of the ganglia of the base artificially produced in rabbits or other mammalia invariably are followed by far greater disturbances in temperature when the left hemisphere is the one operated upon—the systemic, as Dr. Hughlings Jackson would term it, in contradistinction to the more special or right hemisphere. We possess means of modifying greatly the cerebral circulation through removal or irritation of the

superior cervical ganglia of the sympathetic. Thus, when both ganglia are subjected to a strong induced current from a Stöhrer's battery, great care being taken to thoroughly insulate the wires used, it will be observed that the temperature falls, and if a permanent irritation is induced, and a calorimetric observation taken, it will be found that there is a most marked arrest of heat formation, the amount communicated to the calorimeter being from five to ten times less than in rabbits in a normal condition, whilst at the same time the temperature of the body is falling. Thus, in a rabbit operated upon in this way some months ago, it was observed that the total amount of heat communicated to the calorimeter was only 490 gramme-unit of heat for each gramme of body-weight in half an hour, the temperature of the body at the same time falling. In the normal state the amount appears to be fully an average of 55 gramme-units per hour for each gramme of body-weight; and thus, by modifying the amount of blood to the head and neck, the actual amount of heat generated was lessened by five or six times. I mention this fact as merely illustrative of the rapid and powerful influences that can be brought to bear upon the temperature of the body through the vaso-motor system of nerves. Not alone may the ganglionic centres of the cerebrum thus influence the vaso-motor centre by direct injury to themselves, but the effect of section or irritation of the sensory or motor strands of the cord communicated upwards to them will have a like result. Thus, in the operation for the artificial production of glycosuria, when experimenting upon the effects of codeia, I found that when the sensory strands were divided by the wings of the stylet an immediate fall of temperature occurred; and the calorimeter gave as a result frequently as much as 13.4 gramme-units of heat for each gramme of body-weight per hour—an enormous amount when contrasted with the normal state. Numerous calorimetric observations have lately been made by myself with the view of elucidating this question, and which I intend shortly to publish. The results tend to confirm the opinion that I have here alluded to—namely, the intimate relationship between the ganglia at the base and an intracranial vaso-motor centre and the predominance of thermal disturbances in lesions of the left hemisphere. The subsequent rise of temperature towards the termination of this case was undoubtedly due to the pulmonary complications which then supervened.

Wakefield.

## A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

### UNIVERSITY COLLEGE HOSPITAL.

CHRONIC URETHRAL STRICTURE; TRAUMATIC INJURY  
OF PERINEUM; SUBSEQUENT RUPTURE OF URETHRA  
AND EXTRAVASATION OF URINE; DEATH;  
REMARKS.

(Under the care of Mr. BERKELEY HILL.)

The following notes, for which we are indebted to Mr. A. P. Gould, surgical registrar, should be read in conjunction with those of the case recorded at page 187.

D. H.—, aged forty, a showman, was admitted on Jan. 15th in a drowsy apathetic state, and of a sallow and anxious countenance. A puffy, livid-red swelling extended from the perineum along the scrotum and penis, nearly up to the umbilicus; a red blush also extended down the upper half of the thighs. The left side of the scrotum was purple with ecchymosis, and the patient was unable to pass water. Tongue dry and brown; pulse 140, small and weak. The history he gave was as follows. On the evening of Jan. 12th, when getting down from the box seat of a brougham, he slipped, and fell with his legs astride the wheel, striking