half inches in height, but of somewhat spare muscular development. On inspection, the patient lying on the back, there is no visible pulsation; but palpation reveals a pulsating tumour about the size of a hen's egg, situated about an inch to the left of the umbilicus; but, on account of the immobility and resistance of the abdominal muscles, much information as regards the characteristics of the tumour cannot be derived from palpation alone, beyond its expansile pulsation synchronous with the radial pulse. Percussion (after an aperient) over the pulsating area is dull. On auscultation, no murmur is audible in the horizontal posture; but on making him stand up erect, with the arms hanging to the sides just as in the attitude of "standing to attention", a harsh but not loud systolic *bruit* is heard over the dull and pulsating spot, and seems to be to a certain extent prolonged, but less distinctly audible, along the course of the aorta superiorly.

In addition to the above, he has intermittently neuralgic pains, shooting in different directions downwards towards the thighs, the left more especially, and upwards towards the stomach and thorax; beyond these signs of nerve-pressure, there appears to be no pressure exerted on the veins, as shown by the absence of anasarca. No atheroma is detected in the superficial vessels. I may state that, in this case, the subjective feeling of uncomfortable pulsation is well marked. The man is likewise conscious of a cold sensation in the hands and feet.* Physical examination of the heart points to dilatation of its right cavities. The radial pulse is small, feeble, but not intermittent. The kidneys seem healthy, from the examination of the urine and absence of renal symptoms.†

The patient is cautioned against any undue exertion. The digestive organs have been attended to by occasional aperients, and dry and regulated diet. The pain is relieved by belladonna plaisters. A mixture of iodide of potassium and iron is ordered. On account of the dangers which may result from resorting to mechanical interference, and because the patient will shortly be invalided, I have not ventured to attempt any of the modes recommended.

REMARKS.—This case presents several points of singular interest; and I am not ashamed to state that, when it came under my observation for the first time, though the idea of aneurism first passed through my mind, I was more inclined to consider the case as one of a tumour situated over the aorta, the pulsation being communicated from the former to the latter. This simulation, and consequent difficulty in differential diagnosis, are by no means unfrequent. It was only when the patient was the second time admitted under my care, and by examining in different positions, that I was able to arrive at this diagnosis.

A CASE OF PARALYSIS OCCURRING ON THE SAME SIDE AS A LESION OF THE BRAIN, AND ACCOMPANIED BY EPILEPSY.

By W. WILLIAMS, M.D., M.R.C.P., Liverpool.

THIS history is that of a case of partial left hemiplegia, with epilepsy, following a depressed fracture on the corresponding side of the skull; and in connection with this class of cases, towards which so much interest has lately been drawn by the publications of Dr. Brown-Séquard, the present is peculiarly interesting, from the fact that the paralysis can be justly attributed to the effects of the above lesion causing pressure on the contents of the cranium; for the complete recovery, which subsequently took place, followed immediately the relief of this pressure.

On September 25th, 1873, T. D., a boiler-maker, aged 18 years, was admitted into the Royal Southern Hospital, Liverpool, for a recent compound and depressed fracture on the left side of his skull, about half an inch in extent, and situated on the temporal ridge near the point of its division by the coronal suture, caused through a fall against the sharp corner of some iron-plating. At his admission, there was found to be present considerable concussion, but no well-defined symptom of compression of the brain; so, operative interference not being judged imperative, he was placed in bed, with the adoption of the usual course prescribed for the former state. The partially unconscious state in which he was when first seen lasted till the fourth day, when complete consciousness returned; but it was now noticed that the left upper eyelid drooped considerably, and that there was inability to elevate it completely, with defective sight of the same eye. With these exceptions, however, at this time there was no paralysis or weakness of any member of the body; the patient complaining only of a slight but constant and dull pain at the seat of injury continuing unrelieved, even

after the healing of the wound. Up to January 10th, 1874, nothing of importance occurred; progress towards recovery, it is true, had at that time only advanced to a certain stage; for, although he could go about freely and do any ordinary light work, he was still unable to bear much noise or exposure of the eyes to bright light, and anything approaching violent exercise, or even drinking cold water, gave rise to vertigo. At this date, however, nearly four months after the receipt of the injury, there appeared, and gradually increased, loss of power on the left side; and he became subject to fits of epilepsy, recurring weekly, and characterised by the ordinary signs of a somewhat severe type of the disease—such as foaming at the mouth, biting of the tongue, turgidity of the countenance, short spasmodic expiratory efforts, and violent convulsive movements of the muscles of the face and extremities. During the performance of these latter, the participation of the two sides in the movements was found to be unequal, and much in favour of the left arm and leg; so that, in spite of the fact that epileptic convulsions mostly, if not always, and generally so without apparent cause, are more or less unilateral, in the present instance more than ordinary notice seems drawn to the circumstance, from the association with the paralysis and aura epileptica, that will presently be spoken of, occurring on the same side as the lesion of the skull.

Becoming a confirmed epileptic from January 10th till May 6th, he suffered weekly from persistently recurring paroxysms, each being always preceded by a distinct aura in the form of numbness, commencing in the middle finger of the left hand, but soon extending to the others; and then, on its travelling up the forearm as far as the elbow, a sudden metastasis to the left side of the face would usher in the impending attack. This having lasted a few minutes, would be invariably followed by some somnolency and considerable aggravation of the—since the accident—constant pain at the seat of the injury.

The paralysis, amounting in the case of the leg to the production of but considerable lameness, had, by the date of the operation (May 6th), affected the arm to such a degree that a broad sling had for some time been in use, to afford the necessary support for the all but useless and wasted limb (two inches in circumference above the elbow smaller than the right, which is the smaller of the two at the present time).

In May, it was determined to apply the trephine, with the object of removing the fractured part of the probable evil; and, from its limited extent, this was known to be practicable with a medium-sized instrument. Except some convulsive movements while he was partially under the influence, chloroform was well borne. The piece of skull removed, on examination at the conclusion of the operation, which was performed by Dr. Nottingham, was seen to be traversed by a fissure involving both the outer and inner tables, and which had permitted an attachment through the medium of a tough membranous slip between the pericranium and dura mater; but the most essential peculiarity was to be found in the presence of a sharp-edged spiculum or disc of bone, projecting obliquely inwards for about the one-eighth of an inch from the inner table, and which must, while the piece remained *in situ*, have impinged upon the dura mater sufficiently to give rise to such irritation of the subjacent cerebral surface as would account for the symptoms detailed, though not sufficient, as a subsequent examination proved, to produce any apparent change in the membrane itself.

In a few weeks after the operation, complete control over the affected limbs was regained; indeed, at the end of a fortnight, the patient expressed his feelings by saying that everything now felt all right. But, although he made a rapid and satisfactory recovery, and although the cause might then be said to have been removed, still the predisposition to epilepsy acquired after the accident did not appear to as quickly vanish; for, besides four attacks, similar to previous ones, occurring soon after the operation, and while the wound was in an irritable state from inflammation, a distinct epileptic fit was experienced six weeks later during a residence in the convalescent hospital, brought on, he fancied, through his having taken a glass of beer. Even now, while feeling perfectly well in every respect, and having had no return of his old complaint since June 18th, 1874—the attack already spoken of as having occurred during his convalescence—and able to follow as well as ever his former employment of boiler-maker, there remains the impression that similar indulgence would yet be capable of developing a paroxysm.

As he was not otherwise predisposed in any way to epilepsy, in the absence of all other known causes, it has to be allowed that the spiculum of bone before referred to indicates strongly the starting point; and if it were the cause of the epilepsy, which disappeared soon after its removal, then also, most probably, it not only was the cause of the aura epileptica and predominance of action during the paroxysms occurring on the left side, but, in addition, gave rise to the partial paralysis which became located on the same side as the lesion in the brain.

* These two symptoms are of considerable diagnostic importance, and are worthy of being sought after by young practitioners and students.

† Probably because there is no pressure exerted on these organs; but, should the man survive long enough, and the tumour enlarge and press on the ureters, etc., renal mischief would be set up.