shoulder. He had first noticed this after a bad attack of lead colic five weeks ago. There was a faint blue line on the gums round his few remaining teeth. On extending his hand, the index and little fingers were straightened out but the two middle fingers hung down; the power to resist flexion of the wrist or of the two extended fingers was very slight. The left wrist and fingers could be all extended, but required very little pressure to flex them. Tremor was marked in both hands. In both forearms the supinator longus was the most

Fig. 1.—Case III.

prominent muscle; in the right there was a deep hollow to the ulnar side of it, where the extensor communis digitorum lies; in the left there was not the hollow, but very pronounced fibrillary contraction of the muscle. Fibrillary contraction was also evident in both forearms, nearer the wrist, in the region of the extensors of the thumb, and wasting was also noticeable in the right extensor secundi internodii pollicis. The cause of the inability to raise the arm above the shoulder was found to be an extensive atrophy of the deltoid, which also showed fibrillary contractions. The left deltoid was much larger than the right, but there was constant fibrillary contraction in it; he could raise his left arm perfectly.

The selection by the lead of the extensor communis digitorum while the extensor indicis and extensor minimi digiti are left functioning is a condition which does not seem to have been recorded.

A RARE FORM OF MUSCULAR DYSTROPHY.

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By the kind permission of Dr. Hawkins I am enabled to publish the following case of a peculiar form of muscular dystrophy, associated both with atrophy and pseudo-hypertrophy of certain muscles.

CASE.—A. B., male, aged 44, was admitted to St. Thomas's Hospital on July 19th, 1901.

History.—There is nothing of importance in the family history to relate, and no other member of the family appears to have suffered from this disease. The patient was the only child, his mother dying when he was very young. He has always been healthy and strong, and his occupation has been that of a coal porter, which necessitated at times very heavy work. The patient said that, about two years before admission to the hospital and six months before the onset of the present illness, he had a sunstroke, while driving a water cart, which made him feel dizzy for about one week afterwards. At the end of this time he suddenly became maniacal, and was taken to Camberwell Infirmary, where he stayed about

one week, and was discharged apparently well. He seems to have taken a large quantity of alcohol in the form of beer. No history of syphilis could be obtained. The present illness began, with a very gradual onset, about eighteen months before admission to the hospital, and was marked by increasing weakness of the right arm, accompanied by slight wasting. Shortly afterwards the left arm became similarly affected, and also a little weakness in the grasp of the hands was noticed. About this time he occasionally felt a painful sensation, which he compared to that of cramp, starting in the back of the right hand, and which travelled upwards, on the outer side of the arm, to the shoulder. This was also present, but to a less degree, in the left arm. The weakness and wasting gradually and steadily increased; the right arm was always more affected than the left, so that the patient endeavoured, as far as possible, to continue his work with his left arm. Four months before admission to the hospital he was obliged to give up his work, as he was unable to raise up even light weights to the level of his shoulders. The weakness soon became so great that he could not place either hand upon his head. He also noticed some slight loss of power in his left leg.

State on Examination: Nervous System: Motion.—The patient was unable to place his hands upon his head, and could not raise his arms from his sides to the horizontal position. Many individual muscles and portions of muscle were found to be atrophied, while others, and, in a few places, even portions of others appeared to be hypertrophied. When the muscles

Fig. 1.—Showing atrophy of the pectoral, sterno-mastoid, biceps, and triceps muscles and hypertrophy of part of the deltoids. From a photograph by Mr. H. S. Harris.

Fig. 2.—Showing hypertrophy of infraspinati, upper portion of trapezii, and lower portion of left deltoid, also winged scapulae. From a photograph by Mr. H. S. Harris.

were contracted these hypertrophied portions did not feel to be of such a firm consistence as the healthy muscles. The deltoid muscle on each side presented rather a peculiar appearance, which was produced by the lower half of the muscle being hypertrophied, and the upper portion so atrophied as to cause an obvious depression below the acromion process. The clavicular portion of each deltoid was also atrophied, so that the

head of the humerus was not well covered by the muscle in front. The triceps and biceps muscles were greatly atrophied, especially on the right side, as is seen by the measurements around the middle of the upper arm, which were on the right side $7\frac{1}{2}$ in., and on the left $8\frac{1}{2}$ in. The right supinator longus was very weak and wasted, but the left was only slightly affected. In the muscles on the radial side of the left forearm there was a small hypertrophied portion, about $\frac{3}{4}$ in. in length, which felt softer than the muscles around when they were contracted. The grasp of the right hand was not so strong as that of the left, but otherwise the muscles of the hands appeared normal. The pectoral muscles were greatly affected in rather a peculiar manner. The clavicular portion of the pectoralis major, on the right side, did not appear to be much affected, but the sternal portion was greatly wasted and could not be contracted voluntarily. On the left side the condition was reversed, the clavicular portion being wasted and the sternal portion contracting well and standing out prominently. The sterno-mastoid muscles were also greatly atrophied, and equally so on the two sides, so that there was a distinct hollow above the sternal end of each clavicle. The supraspinati muscles were unaffected. The infraspinatus muscle on each side, but especially on the left side, was so greatly hypertrophied as to cause quite a prominence. The scapulae were "winged," which became very marked when the arms were raised in front. The serratus magnus, rhomboids, and the levator anguli scapulae on each side were distinctly weak. The back and the sides of the neck looked to be very swollen, which appearance was produced by the great hypertrophy of the upper portion of the trapezius muscles. These muscles were greatly thickened on each side of the neck, and their anterior borders were very prominent, while on the left side of the neck there was a small tumour, about the size of a hen's egg, which was buried in the muscle and which had the consistence of a lipoma. The other muscles of the back appeared to be normal. In the legs the only affected muscle was the left tibialis anticus which was atrophied. There was no weakness of the muscles of the calves and the patient could easily and for a considerable length of time stand on tip-toe. The movements of the muscles of the face were not good and the face itself seemed to be wanting in expression. The patient could not screw up his eyes tightly, pointing to some weakness of the orbiculares palpebrarum muscles, which are so usually found affected in this disease when commencing earlier in life. He also could not whistle, although previously he had been able to do so. The contractions of the masseter muscles were distinctly weak. The tongue was protruded in the middle line and there was no tremor. There was no affection of the muscles of deglutition and no alteration in the voice. The gait was normal, except that the patient bore his weight more on his right than on his left leg. When placed flat on his back, the patient was unable to get up without rolling over. He then got on his hands and knees and regained the upright position in a normal manner.

Electrical Reactions.—These in the affected muscles were as follows. There was diminished excitability to the faradic and galvanic currents, and the response to the cathode closing of the circuit was readier than that to the anode closing. The reaction of degeneration was, therefore, not present.

Sensation.—Tactile, painful and thermal sensations were normal. Muscular sense was also good, as the patient knew the position of his limbs, and could estimate accurately the differences in the weights of small objects of the same volume.

Reflexes.—The knee-jerks were present, but hard to obtain. There was no movement of the toes on stimulating the soles of the feet; the biceps and wrist-jerks were present, and the abdominal reflexes were very sluggish.

Eyes.—The pupils were equal, and reacted to light and to accommodation. There was no strabismus or nystagmus, the discs were normal, and there was no diminution in the fields of vision.

Other Systems.—The pulse was regular, and of good volume; the arteries were not abnormally thickened. Urine, specific gravity 1032, acid, no albumen or sugar. Nothing abnormal was detected elsewhere.

Treatment.—The affected muscles were massaged once a day for about half an hour, and the patient was encouraged to use his arms.

Progress.—By August 9th there was a slight gain in strength in the arms and he was able to brush his hair by supporting his elbows on a table and by bending his head forward. He could also get his hand on to his head by swinging the arm up in front, but could only keep it up in this position by resting the hand against the back of his head. He could only abduct the arm so as to form about half a right angle with the side of his body. The painful sensations, which he had in the right arm, quite disappeared, but towards the end of August he suffered from neuralgia of the face, which was more severe on the right side. This very slight improvement in the arms continued for about a month, at the end of which time he was able to perform his toilet by various contrivances such as supporting one arm on the other or by laying his head on the table to brush his hair. The grasp of the right hand also seemed to gain a little in strength. From this time onwards the condition remained stationary, and he was discharged from the hospital on September 22nd, 1901.

The peculiar part about this case, and that which warranted its publication, was the hypertrophy, which was very obvious, of some of the muscles of the shoulder girdle, commencing at the age of 43. That this enlargement was a pseudo-hypertrophy cannot be absolutely proved without a microscopic examination of the muscle fibres. The diseased muscles were those that were chiefly used in the patient's occupation as a coal-porter. I cannot find an account of a single case in which this pseudo-hypertrophy began so late in life, although there are many recorded instances of myopathy with atrophy. On account of the distribution and grouping of the affected muscles, and also on account of the absence of the reaction of degeneration and of any form of altered sensation, there can be very little doubt that the muscles, and not any part of the nervous system, were the seat of the disease in this case.

The gain in strength which accompanied the massage was, without doubt, due to the increased development of the unaffected muscular fibres, together with an arrest in the progress of the disease, and not to any regeneration in the affected portions of the muscles.

CASE OF MOTOR APHASIA, WITH HEMI-ANÆSTHESIA, BUT NO HEMIPLEGIA.

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THE following case of motor aphasia presents four prominent features: Motor aphasia, right-sided hemianaesthesia, no hemiplegia, and paralysis of the tongue on the right side.

History.—An unmarried woman, aged 50, was admitted into the infirmary on November 22nd, 1899, being unable to speak. According to her friends she was taken ill fourteen days before admission, being seized in the street with what they called a "fainting fit." She did not, however, fall or lose consciousness, but walked home, a distance of over a mile. She was unable to say what had happened to her, and since that day had not been able to speak. She had always been a healthy woman, never having had a day's illness. There was no history of fits.

State on Admission.—She was in a condition of general weakness, but walked into the ward with only slight assistance, and did not show any inclination to fall to either side. She understood perfectly what was said to her, obeying at once all orders, protruding her tongue, raising her arm, or closing her eyes when told to do so. She could not speak except to say "Ah," although she made great efforts to do more. She had never been able to read or write.

There was complete loss of sensation all down the right side from the scalp to the foot (the conjunctiva, palate, and tongue included), ending abruptly at the middle line. The special senses of taste, smell, hearing, and sight were normal. The tongue when protruded pointed markedly to the right side. On the right side, the arm, leg, and chest were a little weaker than on the left side, the difference being, however, very slight, and only apparent when looked for. There was no dragging of the leg. The right patellar reflex was a little exaggerated, and the right pupil a little smaller than the left. Both pupils reacted to light and accommodation. The fields of vision were normal, there being no restriction.

The heart was normal in all respects, the pulse 72, tense, and regular the wall of the artery being thickened and degenerated. Urine, specific gravity 1020, acid; a faint cloud of albumen was obtained on boiling, which disappeared a few weeks later.

Progress.—The patient was kept in bed for a few days, much against her wish, but ten days after admission was walking about quite well except for her inability to speak. On January 20th, 1900, she could feel very slightly the prick of a pin on the right side of her scalp, face, and tongue; she was able to say "doctor" and to count up to five, the other women in the ward having encouraged her to practise. A few days later she could say a few more words.

On March 15th the sensibility of the head, neck, and hand on the right side was much greater, though still far from normal. The woman shortly afterwards left the infirmary, and I have not been able to learn anything about her.

The diagnosis is interesting, but not very obvious. In the first place, was the disease functional or organic? In favour of its being functional was the hemianaesthesia, ending abruptly at the middle line, which form of anaesthesia existing without hemiplegia is one of the most typical signs of hysteria. Against its being functional were: The absence of any restriction of the fields of vision which is a very constant accompaniment of neurotic trouble, the paralysis of the tongue, the presence of genuine motor aphasia and not aphonia, or loss of voice, the previous history, age, and appearance of the woman, together with the returning sensation of the face.

If therefore the lesion was organic, of what pathological nature was that lesion?

Since marked anaesthesia is much more common in softening than in haemorrhage,¹ it would seem more likely to have been a softening than a haemorrhage, but whether that softening followed embolism or thrombosis it is impossible to say. The sudden onset points to embolism; the absence of any heart trouble and the presence of the degenerated arteries point to thrombosis.

LOCALIZATION OF THE LESION.

Considering the two most prominent symptoms separately, we notice that hemianaesthesia may be caused by a lesion in any one of the following situations:

(a) The posterior third of the hind limb of the internal capsule, where the afferent fibres of general sensation ascend to the brain. Such a lesion without any hemiplegia is extremely rare, and when present is usually accompanied by at least partial paralysis of the leg, also by hemianopsia, disturb-