manner recommended by Dr. Barlow and Mr. Parker.¹ By April 17th the discharge was so slight that the drainage-tube was then removed and the wound allowed to close. A note made about three weeks later stated that the child was fat and of an excellent colour. There was very slight drooping of the right shoulder; resonance and breath sounds were somewhat impaired at the extreme base of the right lung, elsewhere both were fairly normal. The heart's maximum impulse was apparent just under the nipple in the fourth interspace, the sounds being normal. In this condition she was discharged on May 19th.

The first point to which I wish to direct attention, in connexion with this case, is the difficulty which beset the question of diagnosis apart from the crucial test of exploring the pleural cavity. I do not here refer specially to the retraction of the affected side, which in such cases is not very uncommon, but to the totality of the symptoms and physical signs, positive and negative, including the temperature, the absence of cedema of the affected side, of enlargement of superficial veins, of sweating, diarrhoea, and vomiting, these latter, however, appearing after some of the pus was removed. Two explanations of the case seemed possible, between which it was hard to choose: either that a simple serous effusion had existed, which becoming absorbed had left the lung partially collapsed and the chest wall retracted; or, as was ultimately proved, that the case was, notwithstanding doubtful points, one of empyema. In the latter case I presume that the retraction of the side must be explained, in the same way as in the event of a simple serous effusion—namely, that the more absorbable part of the fluid had been absorbed and left the lung in a state of collapse, and it was probably because the pus was perfectly sweet that this absorption had not given rise to diarrhoea and sweating. From the first, however, I rather inclined to the diagnosis of empyema, for these reasons: the tubular breathing over the dull area was less well-marked than might have been expected, apart from the intervention of fluid between the lung and the chest wall; and the pallid and pasty appearance of the child, and the apparent clubbing of the finger ends (although this last was exceedingly slight, so slight, indeed, that at first I was in doubt as to whether one could say that clubbing was present at all), were chiefly suggestive of empyema. Even in presence of these signs, however, I hesitated to make an absolute diagnosis till the use of the exploring needle resolved all doubts. Regarding the treatment of such cases we have a choice of two methods: aspiration, which may have to be two or three times repeated, or a free opening and drainage. The former was decided upon here in the first instance as being a less formidable proceeding, leaving the free opening in reserve if it should prove to be necessary.

Treatment by aspiration is more applicable in the empyema of children than it is in that of adults; but, after all, children, as a rule, do so well where the method of free incision has been adopted that one is sometimes left in doubt whether it would not be as well to have recourse to it at first.

With respect to other than operative treatment in such cases, cod-liver oil and iron in some form are our mainstay. When this child's temperature became high and sweating came on, I ordered her quinine and dilute sulphuric acid, and when troubled with the vomiting the cod-liver oil was discontinued. When the cough became a prominent symptom, she had a cough mixture containing a small quantity of ipecacuanha wine, tincture of squills, aromatic spirit of ammonia, and glycerine, which seemed to do her some good. But the chief thing, of course, is to get rid of the pus.

In comparing the methods of aspiration and free opening for its evacuation, I would add that the former is only applicable where, as in the present case at first, the pus was sweet. If it should prove to be fetid, as it latterly became, the proper course is to have it removed by a free opening and the pleura efficiently drained without delay.

¹ Notes on Pleuritic Effusion in Childhood, read in the Section of Medicine at the annual meeting of the British Medical Association in Manchester, August, 1877.

A LARGE number of workmen at Montreal have struck work rather than submit, at the order of their employers, to vaccination. The city has been lately visited by a severe small-pox epidemic, and the order referred to was issued with the view of stamping out the disease.

UNILATERAL CONVULSION AND PARALYSIS OF THE ARM AND FACE,

THE RESULT OF A LOCALISED CORTICAL LESION.

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Bronchiectasis; Aortic Stenosis; Abscess of the Brain.

THE doctrine of cerebral localisation rests on well-assured pathological foundations, and is constantly receiving confirmation. Thanks to the labours of Hughlings Jackson, Hitzig, Ferrier, and a host of subsequent observers, motor centres for such parts as the arm, leg, and face can now be more or less accurately localised; but the exact limits of these centres cannot yet be said to have been fixed for the brain of man. For the present, therefore, every case of circumscribed cortical lesion associated with motor disturbance is of value, and ought to be put on record. I have to thank my colleague Dr. F. T. Roberts for his kind permission to make use of the notes of the following case, which was admitted into the Brompton Hospital under his care on Dec. 31st, 1883. The notes are by Mr. Arthur D. Roe, M.B., clinical assistant.

Chas. H—, aged thirty-three, French polisher, was admitted on the above date. Family history good. Has drunk a good deal of late. Never had syphilis. Eight months ago he was seized with pains all over him, and soon afterwards began to suffer from cough, accompanied by expectoration and pain in the right side, and he spat up some blood. The cough has been getting worse lately, and the sputum has been tinged with blood at times, but there has been no hæmoptysis of any consequence since the commencement of his illness.

Present condition.—Face pale and thin. Pupils dilated. Fingers slightly clubbed. No marked general emaciation. Breath short only when he coughs. Sputum frothy and tenacious. Pulse feeble and compressible. Appetite good. Tongue fairly clean. Bowels regular. Thorax fairly well formed. Right shoulder lower than left. Flattening under right clavicle and in mammary region. Expansion not good, especially on left side. Percussion impaired on right side from apex to fifth rib, and in scapular region. Resonance normal on left side. Breath sounds harsh over both lungs, but in the second and third right intercostal spaces towards the sternum there is cavernous breathing and râles with pectoriloquy. Moist crackling râles all over right front and axilla. There is pulsation in the right second and third spaces close to the sternum, and a purring tremor is felt here and under the clavicle. Apex beat of the heart in the fifth space in the left nipple line. Cardiac dulness slightly increased in all directions. A loud systolic murmur is heard all down the sternum, and faintly at the apex. The murmur is loudest in the second space at the right side near the sternum. The case was regarded as one of aortic aneurysm.

Progress of the case.—For three months the patient continued to suffer from troublesome cough and profuse expectoration, which were the only constant symptoms. During the greater part of this time he was treated with iodide of potassium. The physical signs remained unaltered throughout.—Jan. 24th: Hæmoptysis (about six ounces); expectoration muco-purulent.—Feb. 15th: Feels better; no change in physical signs.—21st: Pulsation less marked.—March 20th: Expectoration profuse the last two days.—23rd: Slight hæmoptysis during a fit of coughing.—April 1st: This evening at 9.15 he became unconscious, and foamed at the mouth; face contorted; mouth open, and dragged over to the right side; much struggling during the attack. The right arm was first seized with tremors, and then was spasmodically contracted. The pupils equal and dilated during the attack, and afterwards. The tongue after the attack protruded, rather to the left (?). Shortly after the attack, when consciousness had returned, the patient's utterance was rather thick and difficult. Half an hour later he had another convulsive attack, not quite so violent as the first, lasting about five minutes, and beginning with tremors in the right arm, and attended by the same contortion of the mouth. The patient did not call out during the attack.—2nd: Another attack at 4 A.M., and again at 5.15 A.M.; character of attacks the same; 11 A.M., mouth

drawn to the right. Tongue protruded to left (?). Cannot whistle well. Right arm feels heavy and powerless. Sensation unimpaired; consciousness perfect.—3rd: Right arm feels powerless. Sensation still seems slightly impaired; no further attacks.—4th: Another attack at 12.15 A.M., commencing with tremors of right arm; but, unlike the previous attacks, which rapidly attained a climax of convulsive movement, this one lasted a long time, the movements preserving the same character and force. Under the influence of hypodermic injection of morphia he quieted down about 1.30 A.M. 6 A.M.: Another slight attack, in which the patient fell out of bed. 10 A.M.: A short attack.—5th: Two slight attacks after breakfast and dinner.—6th: Right arm quite powerless this morning. Sensation perfect.—8th: Is able to walk with difficulty. Speech slow, difficult, and indistinct.—9th: This morning the patient is barely conscious, and has been unable to answer questions. Right side of face blank. Mouth now drawn to left. Left eyelid drooping; pupils equal. Cannot protrude tongue. Right arm completely paralysed, also right leg. There appears to be some anaesthesia on right side. Knee-jerk increased on right side. No ankle clonus. No rise of temperature during last week. Temperature subnormal last three days. Patient is unable to take food this morning.—10th: Lies in a semi-comatose state. Has not spoken for the last two days. Urine passed involuntarily. Right pupil rather larger than the left. Temperature 97° F.—11th: Patient in much the same condition; partially conscious. There seems to be a quantity of phlegm in his throat which he cannot expectorate. Respiration snoring. Temperature subnormal. Pupils nearly equal and contract to light.—12th: Respiration rapid and shallow. The patient gradually sank and died the same night.

Post-mortem examination.—Brain—calvaria: membranes and vessels healthy. In the position of the ascending frontal and posterior extremity of the middle frontal convolutions on the left side there was a distinct greyish-yellow

discolouration with flattening of the surface. The texture of the brain generally was soft, but in this region it was decidedly softer than elsewhere. On further examination, it was found that there was an abscess the size of a large walnut in the ascending frontal convolution, encroaching upon the hinder end of the middle frontal convolution, and situated about two inches from the great median fissure. Just below this abscess there was another smaller one, of the size of a bean. Both abscesses contained greenish gelatinous pus. Their walls were tough, but there was no distinct capsule. The substance of the middle frontal convolution for about one inch in front of the abscess was of a yellowish colour and softened. The white matter between the abscess and the lateral ventricle was reduced to a mere pulp, and the white substance underlying the left ascending parietal convolution was in a similar state, though the convolution was not itself softened. Both ventricles contained a little turbid blood-stained fluid. The rest of the brain was healthy to the naked eye. The position of the abscess is marked in the above diagram. On opening the chest the left lung was distended, the right apex much retracted uncovering the aorta. The right upper lobe was contracted and contained numerous smooth-walled, and to some extent trabeculated, cavities of bronchiectatic appearance, communicating with dilated bronchi. The intervening lung-tissue was airless, collapsed, and traversed by fibroid strands, but was not greatly indurated. The bronchi in the middle lobe and to a less extent in the lower lobe were dilated; in the middle lobe there were cavities, and a similar condition of lung to that in the upper lobe. The dilated bronchi

and cavities contained a foul-smelling putty-like secretion. Left lung congested. Smaller bronchi existed in places slightly dilated. There were no nodules of any sort in either lung. Bronchial glands contained calcareous concretions, but no caseous matter, and were not enlarged. Heart: Slight dilatation with scarcely any hypertrophy of the left ventricle. Aortic valves thickened, puckered, and adherent to each other, causing much stenosis of the orifice. No vegetations. Aorta: trifling atheroma just above the valves only. Other organs healthy.

The pathology of the nervous phenomena observed in the case is what mainly concerns us here. The patient without any warning was seized with attacks of right-sided convulsion of the arm and face, which were frequently repeated and always in the same order, the arm being first convulsed and then the face. Loss of power in the arm developed within a few hours, whereas paralysis of the face did not appear for more than a week after the first attack; and at the same time the leg became paralysed without having been convulsed at any time. The first attack was attended by loss of consciousness, but I believe this was not the case with the subsequent seizures, though the point is not mentioned in the notes. It seems probable that the facial spasm was due to irritation of the lower part of the ascending frontal convolution below the abscess. This view is supported by the fact that this part of the convolution was found in a softened condition after death. This conclusion, however, is somewhat weakened by the presence of softening in the upper part of the same convolution and in the posterior part of the middle frontal. Still it is more in accordance with experience to take this view than to regard the facial affection as due to the other lesions just referred to. Unfortunately, the distribution of the facial spasm is not specified in the clinical notes, though it was expressly stated that the mouth was drawn over to the affected side. Pathological and experimental evidence both point to a connexion between the lower part of the ascending frontal convolution and the lower facial muscles. There was some embarrassment of speech from the first, but no true aphasia. The situation of the abscess in the middle third of the ascending frontal convolution corresponds with the localisation of the lesion that has several times been found in cases of brachial monoplegia (compare cases quoted by Ross, *Diseases of the Nervous System*, vol. ii.) The main stress of the cerebral lesion fell upon the arm centre, convulsion began in the arm, and the arm was the first part to be paralysed. Clearly the abscess was the initial nervous lesion, and the surrounding softening was of later date. The immunity of the cortex of the ascending parietal convolution and the destruction of the subjacent white fibres would explain the development of paralysis of the leg without antecedent convulsion. The origin of the abscess is to be found, no doubt, in the absorption of putrid materials from the cavities in the lung. Although the cavity contents had a strongly fetid odour after death, the expectoration was never noticed to be offensive during the patient's life. The post-mortem record is sufficient to show that this was not a case of ordinary tuberculous phthisis, and this conclusion is warranted by the fact that microscopical examination of the contents of the cavities failed to detect any tubercle bacilli. The cavities were, I believe, bronchiectatic in origin.

From the point of view of diagnosis the chest affection has considerable interest. The retraction of the right lung uncovering the aorta and the stenosis of the aortic orifice gave rise to physical signs closely simulating those of aneurysm. Whether the "pains all over him" which the patient spoke of as marking the commencement of his illness were due to acute rheumatism or not, it is impossible to say, though it is not improbable that it was so.

Brook-street, W.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The first meeting of the session 1885-86 will be held at the West London Hospital on Friday, October 2nd, at 8 P.M. The President, Mr. W. B. Hemming, will deliver an address, and several surgical cases will be shown by Mr. Keetley. Subjoined is the list of officers:—President: Mr. Hemming. Vice-Presidents: Dr. Alderson, Dr. Pickett, Mr. E. C. Barnes, Dr. Campbell Pope. Council: Dr. Clippingdale, Mr. Swinford Edwards, Mr. J. R. Lunn, Dr. Hart Vinen, Mr. R. F. Benham, Mr. C. B. Keetley, Dr. Owles, Dr. Thudichum, Dr. Travers, Dr. Bullock, Mr. F. C. Dodsworth, Dr. Wells. Treasurer: Mr. Lawrence. Secretaries: Mr. Gunton Alderton, Mr. H. Percy Dunn.