In mentioning these causes of failure I may perhaps add that a little practice and familiarity with the operation goes far to eliminate them, and I see far less of them now than formerly. With these few exceptions I have found the operation entirely satisfactory. The children have nice supple active feet, permanently corrected, and they are from the beginning freed from the burden of instruments.

PNEUMOCOCCAL INFLUENZA.

BY

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THE name "influenza" is applied to a variety of ailments. In the recent great pandemic *B. influenzae* was shown to be the infecting organism in a very large number of cases; there may be, however, small local epidemics, influenzal in type, which are caused by other organisms. Clinically the cases have the appearance of influenza, and one might class them, as Sir William Osler suggested, under the head of "influenza nostras."

The series of cases here described occurred among the nursing staff and students of a hospital during the early part of this year. The epidemic began early in January and went on till March, and comprised some forty cases. The pneumococcus was the organism found in overwhelming predominance on examination of throat swabs by direct smear and culture in every case. *M. catarrhalis* and streptococci also occurred, but were in the minority, and *B. influenzae* was not seen. Pneumococci were also the cause of such complications as occurred. Clinically the cases varied from a slight headache, sore throat, and fever to very severe prostration.

In almost every case the first symptoms were referred to the upper air passages. Some complained of having had a cold for a day or two, or a sore throat; in others the onset was more sudden. Then followed headache, which was usually frontal, and attacks of shivering, with pains all over the body, especially in the back and limbs. Such symptoms are similar to those described as the nervous symptoms of influenza. The headache in some instances was intense. Most cases had more or less photophobia, and in some there was considerable conjunctival injection. The tongue was coated with white fur as a rule; in four instances there was vomiting, which persisted for three days in one case. There was no marked diarrhoea or constipation. Fever appeared with the other symptoms. The temperature in some cases reached 104° F.; in others there was only a slight rise. As a rule there was in uncomplicated cases no fever after four or five days.

Sore throat was the most common complaint, and there were patches on the tonsils in most cases; injection was acute in all. The throat and nasopharynx seem to have been the points of attack of the infecting organism. In five cases there appeared on the fauces and soft palate, and on the uvula to a varying degree, a whitish, shining exudate, which had a glazed look; it gradually spread over the surrounding parts, was very thin, almost transparent, and easily detachable. From each of these cases almost pure cultures of pneumococci were obtained. The parts of the throat not covered by the exudate were very injected. The presence or absence of tonsils did not appear to have any influence on the incidence of the infection, but the patients without tonsils got off more lightly. Only three slight cases of adenitis occurred, and the glands at the angle of the jaw were only affected to a small degree in the most severe cases of throat infection. There was not much tendency to downward spread of the infection; bronchitis occurred twice, and there were two cases with pulmonary consolidation; one of the latter ended in widespread bronchopneumonia which proved fatal.

In six of the most severe cases a scarlatiniform erythema appeared early in the illness. It showed itself uniformly on the limbs, trunk, and face at the same time. The extensor surfaces of the limbs tended to be most affected. There was no itching. As the temperature fell the rash faded, leaving the skin rather yellow. There was a very slight powdery desquamation afterwards in two cases. The appearance of the rash was the signal of acute infection, and the patient was soon very ill. The throat was always markedly affected in these cases, and four of them showed the distinctive exudate described above.

Direct spread of the pneumococcus caused such complications as there were. The pus from a double mastoid infection, which set in on the fourth day, gave a pure culture of pneumococci. The same was true of three cases of empyema of the antrum, as also of an acute case of conjunctivitis which began three days after the onset of the original infection.

Clinically these cases exhibited the rather protean symptoms of influenza, although *B. influenzae* was not the cause. The pneumococcus was often present as a secondary infection in cases of true influenza in the recent epidemics, but this outbreak illustrates the observation of Pulfrey⁶ that a primary pneumococcal infection may cause an epidemic with all the clinical appearances of true influenza. This has also been noted by Peset,⁴ who found the pneumococcus to be the cause in 62 per cent. of cases in an epidemic.

Toxic erythematous are seen in acute infections, generally streptococcal in origin. They may occur in pyaemia¹. Such rashes have been described in cases of influenza by Hainiss² and others. Sir W. Osler mentions them as occurring occasionally in pneumonia. No doubt in the outbreak here described they were caused by the absorption of toxins from the throat; it may be noted that they were seen only in the worst cases. The appearance of the throat exudate described above was very striking and distinctive. It would appear to be characteristic of acute pneumococcal infection in the throat.

These few cases serve to show how closely true influenza may be mimicked by an infection due to another organism. My thanks are due to Dr. Harold Wiltshire for his kindness in allowing me to publish this account.

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A CASE OF BRONCHO-BILIARY FISTULA.

BY

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THE following case is an unusual one, and at the same time of sufficient practical clinical interest to merit its being placed on record.

A labourer, aged 47, went to his doctor in June, 1921, complaining of some loss of weight and of feeling generally weak and ill. A few days later a severe hiccup commenced which lasted for nine days and then ceased abruptly. It was so severe that it deprived him of sleep and seriously interfered with eating, and even with speaking. On its disappearance he complained of nothing beyond general weakness, but three weeks later a cough began with copious expectoration which he described as being "like brown jelly and sometimes streaked with blood." This continued for a month, when the colour of the sputum suddenly changed to yellow. It was now intensely irritating and associated with a violent paroxysmal cough which sometimes led to vomiting.

Such was his condition on admission to hospital on November 5th, 1921. His previous record included scarlet fever at 8, pneumonia at 16, and gonorrhoea at 19. He had never been abroad, and had never had any illness resembling dysentery.

He was found on admission to be coughing up large quantities of clear bright yellow fluid, which consisted almost entirely of bile. It contained a few Gram-positive cocci and one or two cells, but no pus. No traces were found of amoebae or the hooklets of *Taenia echinococcus*. He was emaciated and weighed 7 st. 4½ lb. Before his illness he weighed 9 st. 2 lb. He was not jaundiced.

Examination of the chest revealed a small area of impaired resonance at the base of the right lung over which medium crepitations could be heard. The breath sounds over this area were harsh and vesicular in character; the vocal fremitus and resonance were not altered.

The liver was a little enlarged and just below the right costal margin could be felt somewhat rounded and hard. There were several dilated veins in the abdominal wall, chiefly on the right side both above and below the umbilicus. The spleen was not enlarged, there was no ascites, and examination of the faeces failed to reveal any evidence of amoebae. The Wassermann reaction was negative and radiograms showed nothing abnormal.

It was clear that a communication had in some way been effected between the bile passages and the bronchi, and as the condition was causing acute distress Professor A. M. Connell operated on November 25th. Portions of the eighth and ninth ribs were resected on the right side and the upper surface of the diaphragm explored. Dense adhesions were found between the base of the lung and the upper surface of the diaphragm, but no opening through the diaphragm was seen. The adherent surfaces were

separated as completely as possible and a drainage tube inserted from which for a few days a small amount of bile escaped.

After the operation the coughing of bile ceased completely for five days and then began again. He continued to cough up a considerable quantity for some time, but it steadily diminished and ceased altogether about a month after the operation. He was discharged on January 9th of this year, feeling well, free from cough, and having gained several pounds in weight. The wound was quite healed, the crepitations at the right base had gone, but some dullness remained. The signs in the abdomen were unchanged.

When examined again, six months later, he felt perfectly well and was doing full work. He had regained his former weight, the enlarged veins in the abdominal wall had disappeared, and there were no abnormal signs in the chest with the exception of slight persistent dullness.

It is an uncommon event for bile, at any rate in quantity, to find its way into the thoracic cavity. When an abscess of the liver ruptures it does so most commonly upwards through the diaphragm, either into the pleura or into the lung, and in the latter case large amounts of pus may be evacuated via the bronchi, and sometimes the pus is mixed with bile. In the present case an abscess of the liver appears to have penetrated the diaphragm and discharged itself into the lung, and at the

same time to have effected a communication with one of the larger bile passages, with the result that pure bile continued to escape long after all pus had disappeared. This seems altogether more probable than the alternative supposition that the primary focus was an empyema which burrowed through the diaphragm and deeply into the lung.

T. R. Elliott and H. Henry¹ described some cases of internal biliary fistulae—one into the lung and one into the pleura—which resulted from gunshot wounds. They noted particularly with regard to the latter, in which pure bile was aspirated from the pleural cavity, the absence of any evidence of an inflammatory reaction on the part of the pleura. The expectorated bile in the present case was similarly lacking in inflammatory products. There was no pus visible either to the naked eye or microscopically during the whole period of observation, though a few organisms were found in it.

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RESTORATION OF THE ROUND LIGAMENTS.*

BY

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IN one of his many moments of inspiration Lawson Tait fixed the fundus of a retroverted uterus to the anterior abdominal wall by a silk stitch. Out of this inspiration to meet a sudden emergency during a pelvic operation was evolved the independent operation of hysteropexy—an operation which by its very simplicity captured the imagination of gynaecologists and very largely held the field a couple of decades ago in the surgical treatment of retroversion of the uterus. But with the progress of the years evil sequelae were reported, and then came the reaction from the early enthusiasm—a reaction threatening to relegate hysteropexy to the surgical scrap-heap.

Meanwhile the popularity of the Alexander-Adams operation had necessarily waned, in spite of its proven value, and in spite of Goldspohn and Stewart McKay having both shown that during the course of the operation limited access to the pelvic abdomen might be obtained through the same skin incision. It was not, however, until after the year 1900, when the intra-abdominal operation of Gilliam had entered the field, that the prestige of the Alexander-Adams operation was seriously imperilled. But with the advent of the Gilliam operation was ushered in a wave of enthusiasm for the free intra-abdominal method of curtailing the overstretched round ligaments, and to-day the Gilliam procedure or one of its modifications appears to be that most commonly employed in British communities, although it must be admitted that the Baldy-Webster operation has many warm advocates. This latter operation, as with certain others (Mann, Dudley, Murphy) shortens the overstretched round ligaments by eliminating its inner portion, while the Gilliam type and the Alexander-Adams cuts out the outer portion of the ligament.

Long simply puckers up ("shirring") as much of the intra-abdominal portion of the ligament as may be necessary to produce anteversion of the uterus.

Genesis of the Operation.

With the exception of hysteropexy most of the numerous operations for retroversion are based on the view that the excess in length of the overstretched round ligaments should be eliminated by excision or by looping. This view is obviously opposed to the fundamental surgical principle that the ideal treatment of an acquired abnormality is that which restores it to the normal. The ideal treatment then of an overstretched round ligament would be the restoration of the ligament to its original dimensions. How was this end to be achieved?

It first occurred to me that, in retroversion, hysteropexy (Kelly) might be carried out, and the "false ligament" cut away a year or two later. I had seen cases in which this had been done, and in which the uterus had subsequently maintained its anteversion. In such cases the abdomen had been opened on the second occasion to deal with some fresh condition. To re-open the abdomen, however, solely to cut away the "false ligament" seemed to me, on consideration, unlikely to be practicable, and I abandoned the idea,

Restoration of the round ligaments. A., Fold of anterior leaf of broad ligament, between round ligament and bladder; C.C., forceps and cut edges of incision in anterior leaf of broad ligament; P., purse-string; U., uterus; B., bladder; I.R., internal abdominal ring. Drawn from a dissection made in the Perth Hospital, with photographs by Dr. G. W. Barker.

although the fundamental principle as to the ideal treatment of acquired abnormalities still dominated my outlook.

Meanwhile I had been employing the Montgomery-Gilliam operation, but towards the end of 1913 I began a new procedure, sewing up a loop in the round ligament reached by a short incision parallel to it in the anterior leaf of the broad ligament. One day I noticed that when I had tied a purse-string to close the opening in the broad ligament the uterine anteversion was increased beyond that produced by the loop in the round ligament. In subsequent cases I applied this observation, when necessary, by deliberately extending the incision (and the outer and inner limits of the purse-string). But during this period I made two other observations: (1) that the material of the anterior leaf of the broad ligament generally appeared to be stronger than simple peritoneum; and (2) that in many cases of retroversion this leaf of the broad

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