Reports
ON
MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GYMPIE HOSPITAL, QUEENSLAND.

THREE CASES OF SUBPHRENIC ABSCESS.

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THESE cases were chosen on account of certain special features. Thus the first indicates that a subphrenic abscess may originate from an infection of the influenza bacillus at the time of parturition, and also illustrates the negative value of aspiration as pointed out very fully in the classical lecture on the subject by the late Mr. Barnard. It shows how prolonged these cases may become if tided through the acute period, and what miraculous conditions may be met with in the abdominal cavity compatible with life. Thus the first patient lived for four weeks with a canal of pus slowly extending from the uterus up along the descending colon, around beneath stomach and liver, and thence downwards on the inner side of the ascending colon, with the intestine and all the organs in the pelvis and above matted together with adhesions. The second shows how a favourable termination may result after much damage done, resulting from an abscess which probably originated from gall stones in the right hypochondrium, extended across between stomach and liver (later perforating into the stomach), and passed down along the descending colon, and was opened in the left loin. The third illustrates the difficulties of diagnosis in a rapid fulminating case in which subphrenic abscess was suspected from the first but convincing signs were absent until late. It also shows the hopeless nature of the case from the point of treatment, as there were multiple abscesses in the liver, and, incidentally, the result of neglect of surgical treatment in gall stone cases.

CASE I.

Sarah N., aged 23, married and expecting to be confined, had an attack of diarrhoea and abdominal pains, with headache, vomiting, and pains in the limbs. This was during an epidemic of influenza, and patient thought she had contracted the complaint. This lasted two days, and on the third, after a very short labour (one and a half hours) a full-term child was born. She was attended by a midwife. The diarrhoea continued, and at night she had a shivering fit. Next day she was hot and cold by turns. After remaining in this condition for two days she was seen by a medical man, and sent to the hospital. On admission the patient—a well-developed and well-nourished young woman—had a temperature of 101.8°, pulse 130, good tension, and respirations 36. The tongue was dry and furred. The abdomen was moderately distended, uterus enlarged up to within 1½ in. of the umbilicus (normal position for third day), firm and hard, well contracted, moderately tender on examination, but more tender on either side over the appendages. Lochia only slightly offensive, red in colour. Vulva normal, no tear. Cervix soft and patulous, and shreds could be felt with the finger within the canal. Temperature at night 103°. She slept fairly well after a hypnotic. Next morning her temperature fell to 98°, and pulse to 116. The following night she was very restless, and pulse and temperature rose again. Next morning she was looking and feeling worse after a sleepless night, and the uterus was more tender. The lochia were more offensive, and it was decided to curette. This was done without an anaesthetic after a hypodermic injection of morphine. The cervix was found to be soft, devoid of mucous membrane, and covered with superficial ulcers and one moderately deep one. When sponged it had the raw appearance of healthy granulation tissue. A small swab was carefully introduced into the uterus from a sterilized tube for bacteriological examination, and a smear preparation made. The interior of the uterus was then curetted with a sharp, broad-ended curette. Several fragments of placenta and membranes were removed and subsequently identified microscopically (decidual cells and chorionic villi, etc., present). The uterus was then wiped out with sterilized gauze and the whole surface swabbed well with pure cyllin on gauze swabs. It was then packed with iodoform gauze. The ulcers of the cervix were treated with pure cyllin also, and the vagina cleansed. This treatment proved most efficacious, and there was no smell or further trouble from the uterus—the infection had passed beyond it.

On bacteriological examination the smear showed short bacilli, often in pairs, and with polar staining identical in appearance with Pfeiffer's influenza bacillus, and although pus cells were seen in numbers no pus cocci or other organisms were present.

At night the patient complained of severe pain in the left side and beneath the breast, and scarcely slept at all. At 8 a.m. next morning I received an urgent call from the nurse. The pulse was very wavy and feeble, and could only just be detected. Stimulants were given, and hypodermic injections of strychnine and digitalin. The pulse improved temporarily. Saline solution was given by the rectum, and two hours later 3 pints of saline subcutaneously. This was repeated during the day. At night the respirations ran up to 70, and the left side of face became flushed. Next morning fine crepitations appeared at the left base, and a patch of tubular breathing in the seventh space in the mammary line. She was now having a regular quantity of stimulant. On the following day she became still worse, and her friends were sent for. Hypodermic medication was continued, and she slowly began to mend. The temperature became normal, and on the eighth night she slept all night. In the interval a patch of bronchial breathing appeared on the right side with pain, and the adventitious signs on the left side cleared up and the dullness at the left base was less apparent. Loose stools with mucus were still being passed, but the uterus was involuting at about the normal rate, and no severe pain or tenderness was complained of in the abdomen. On the twelfth day a pleural exudate appeared at the left base but did not extend beyond the lower third of the lung. At the end of the second week her general condition was much improved, and she was taking food well, but her temperature showed signs of rising again. The uterus was no longer tender.

The next development was pain on passing urine, followed by retention of three days' duration, then meteorism, pain on deep pressure all over the abdomen, and other indications of visceral peritonitis. This continued up to the nineteenth day, when vomiting commenced and lasted for forty-eight hours. There was then tympanites all over the abdomen, but more marked in the epigastric region. The liver dullness began at the fifth space, and continued barely two spaces when the note became tympanitic. In mid-axilla the liver dullness extended lower down, but rose higher when the patient was turned on to the left side. The conclusion was irresistible that there was gas and probably pus in the peritoneal cavity. A small incision was made in the eighth left space, under local anaesthesia, and aspiration tried at various depths up to 4 in. The trocar was pushed slightly backwards and downwards, but no pus or serum was obtained. The left side was chosen because the signs had been more marked on that side all along, and there was still dullness at the left base and pain in the left hypochondrium on deep pressure. The conclusion was that pus had tracked up the left side towards the epigastrium, and events proved this to be correct, but at the time it was discounted by the negative result of the aspiration. The leucocytic count did not help much; it was about 10,000.

I would like to prognosticate here that in the near future new signs will be observed which will render the diagnosis of these cases much more definite and certain. There is not enough stress laid upon the value of auscultatory percussion. Chinking percussion is a useful sign, and very suggestive of free fluid and gas in the abdominal cavity. Another sign sometimes found when there is a localized collection of pus along the ascending or descending colon is a dullness in the flank, which changes to a tympanitic note when the patient is turned on to the opposite side, but does not return to its former dull note when the dorsal position is again assumed, the note now being *intermediate* in quality. Deep tenderness is more constant than superficial tenderness. As the patient's life in these cases depends upon the early recognition of the exact nature of the case, *any* advance in the recognition of physical signs must be a distinct advance in treatment, and result in a lowering of the mortality-rate, which is still far too high. Any slight sign, therefore, which just weighs over the balance of the diagnosis will be a very definite gain.

All these signs appeared about this time in this case; the vomiting continued at intervals, and on more than one occasion lost its bilious colour, assuming a creamy appearance. On the twenty-fifth day it was noticed that the breath had a purulent odour, but there were no fresh signs in the lungs. The abdomen was tympanitic and uniformly distended. She was now sleeping fairly well On the following day a swelling was noticed in the right leg the foot and leg were oedematous, and the calf very painful on gentle pressure, and two days after oedema appeared in the left foot. On the next day—the thirtieth after admission—she complained of severe pain in the abdomen, which frightened her very much. On examination there was considerable distension of the coils of small intestine, and a turpentine enema gave complete relief. The urine now began to dribble away. On the night of the thirty-first day the pulse became very rapid (150) and feeble, and she died at midnight, quite conscious to the last.

Post-mortem Examination.—On opening the abdomen there was a considerable escape of gas. Thick, dense adhesions between omentum and parietal peritoneum. Omentum matted over and adherent to small intestine. Very dense and thick adhesions below the umbilicus. On breaking through these there

was a collection of dirty brown fluid, which had gravitated downwards from a perforation in the stomach and collected over the small intestine. Some of this was localized here by dense adhesions, but the rest had filtered down into the upper part of the pelvic cavity. The right lobe of the liver was adherent to the parietal peritoneum by firm adhesions, and there were adhesions between liver and stomach. There was another localized collection of pus in a channel on the left side, extending down towards the sigmoid from the *spleen*, and this channel was continuous with that beneath the stomach, but dense adhesions separated the two at intervals. The *liver* was enlarged but normal on section. The *spleen* was one and a half times its normal size, with a much congested lower pole, where it was attached by a thick adhesion to the parietal peritoneum. There were no infarcts, and the pulp was moderately firm on section. The *stomach* was much enlarged, so that the pyloric end was well to the right of the middle line. Near the pylorus and in the anterior and lower part was a *perforation* ½ in. in diameter. It was funnel shaped from without in, and all the coats were adherent at the margin. It appeared to have perforated *into* the stomach lumen. There was a ring of congestion and adhesions around it. There were dense adhesions in the pelvic peritoneum and that over the uterus, and tubes and small intestines was covered with shaggy lymph with small collections of pus between. *Uterus* about the size of a six weeks pregnant uterus. Cavity free from exudate. Tubes not enlarged. *Appendix* quite healthy. *Heart* practically normal, but increased fluid in pericardium. *Lungs*:—Left: Dense adhesions lower part; some thick creamy pus at base in pleura; base consolidated but resolving; a small collection of creamy pus superficially half-way up lower lobe. Right: A few adhesions and congested.

At the *post-mortem* examination a needle was passed through the aspiration wound in the direction of the original aspiration. It passed through the pleura immediately below the lung and into the phrenico-colic ligament, being separated by only about ⅛ in. from the pus canal.

Nothing, therefore, could be more misleading than the aspiration in this case, and although everybody knows that a negative aspiration does not mean the absence of pus, when the facts are being carefully weighed in the formation of a diagnosis this point may just turn the balance, and the treatment be changed accordingly.

CASE II.

Charlotte A., a married woman aged 45, was first seen by a doctor two weeks before admission, and her case diagnosed as gall stones. Operation was suggested then, but she improved temporarily. A year ago she had several attacks of pain and vomiting. She had had jaundice once many years before. On admission her chief complaint was of pain in the *left* iliac region, which she thought was due to straining while vomiting. She looked fully ten years older than her age. She vomited bile on admission. Her temperature was normal and pulse 96. The abdomen was moderately distended and tympanitic, indefinite resistance in the right hypochondrium, but no jaundice. There was a patch of tubular breathing in the third left interspace in front. Next day there was tubular breathing and bronchophony at the left base, left-sided pain, and a temperature of 102°; then absent breath sounds at both bases; no vocal resonance over the lower half of both lungs, dullness over the lower two-thirds, and crepitations at right inferior scapular angle. Following the basal pneumonia and pleurisy, a gradually growing oedema and discoloration of the skin in the left flank appeared, with much pain and marked tenderness, followed by pain, often very severe, in the left leg and back of knee, with tenderness along the sciatic nerve. The lung signs resolved, and the abdomen became more distended. There was much pain now at one particular spot in the left loin, but no definite fluctuation. The temperature was remittent, but did not rise above 100°, and was often subnormal, while the pulse ranged between 96 and 120. She had restless nights. An incision was made under chloroform in the ward over the tender area, and a very large quantity of pus evacuated (two kidney trays full). On exploring with the finger a large abscess cavity was found following the course of the descending colon, apparently extraperitoneal, and extending down into the pelvis. On irrigating the cavity with sterilized water several large sloughs were washed out. A large drainage tube was put in and stitched to the skin. A bacteriological examination of the pus showed pneumococci, *Bacillus coli*, and numerous other bacilli. The patient had to be changed twice within a few hours on account of the abundance of the discharge. The thick dressings were saturated, and the sheet. The following day, after irrigation, she complained of nausea, and then vomited one and a half pints of matter containing blood. For the next two weeks she remained in a serious condition, the pulse keeping at 120 for days and the discharge of pus soaking through the dressings. Then she rallied, the discharge lessened, the cavity got smaller, and the tube was correspondingly shortened. On the fortieth day from admission she complained of pain in the right side of the sacrum, and the temperature rose to 102·6° F. A small local swelling appeared without discoloration and then subsided. Her convalescence was very slow and protracted, and she did not leave the hospital until the eighty-ninth day. The wound was quite healed and sound. A month after she sent a message to say she had not been in such good health for years.

In this case it is impossible to state with accuracy the exact path followed by the abscess. All we know is that it commenced in the right hypochondrium, passed to the left, infected left and right pleural cavities and lungs in turn, and perforated into the stomach, being partly discharged by the mouth after being opened in the left loin. The abscess must have been a very extensive one. The final result was, therefore, very gratifying.

CASE III.

Helena S., a married woman aged 45, was admitted complaining of drowsiness, listlessness, and pain at times in the right shoulder and right side of chest. She had not been well for some time. Thirteen months before she was in the hospital for a week with right-sided pain, but without any signs. The pain was amenable to treatment and soon cleared up. She was pregnant at the time. She had not been well since the birth of the child eight months ago and was still lactating. She had been a bad sleeper, and had had a very poor appetite for three months. Two days before admission she had wakened with a very severe pain in the front of the right shoulder, and within the last three days she had had two rigors, followed by sweating and vomiting. In the past she had had a left empyema many years before, and enteric fever six years ago. On admission she was found to be well nourished, with a very yellow skin and a heavy appearance, but there was no jaundice. The skin was more than yellow—it was earthy looking. The tongue was clean and moist. Temperature 98°, pulse 90, and respirations 24. A careful examination was made. The lungs, heart, and abdomen were normal; the liver dullness was normal; there was no tenderness anywhere; the spleen was not enlarged, and the kidney secretion was normal. The reflexes were not exaggerated. Next night her temperature was 101°, and the night after 103°, with remissions between. The lungs and abdomen were carefully examined each day, and still no signs except severe pain in front of the shoulder, restlessness, and profuse perspiration. Next night her temperature was 104°, then 102°, followed next morning by a rigor and a rise to 105.2°. The pulse had never been above 100. There were still no signs except an occasional fine crepitation at the lower border of the right lung in front. Deep pressure over the abdomen caused no pain at any point. The liver was most carefully examined, and its area of dullness mapped out. No departure from the normal could be found. The upper limit was in the fifth space. The edge could only be felt on inspiration. The blood was examined, but no haematozoa found. Next day she had another rigor, the temperature rose to 105.8°, and profuse sweating followed.

Still no signs except increased pain in right shoulder and breast, and an increase of respirations to 44. The next day, the eighth after admission, the first definite signs appeared in the right lung—namely, some tenderness on palpation over lower ribs, dullness in anterior and lower part of axilla, and bronchial breath sounds above with crepitations below. Bronchophony and nasal intonation near angle of scapula. On the ninth day the lung signs had increased, and there was an area of tubular breathing below the right breast, but nowhere marked dullness. On the tenth day the signs began to clear, but the general condition was not improved. On the eleventh day the patient was very drowsy and the tongue dry and raw. On examination a sudden change was found in the signs. There was now wooden dullness over the right lung behind and tympanitic resonance in front. Tubular breathing, coin sound resonant and suggestive, but not quite bell-like. In the fourth and fifth right interspaces a curious metallic clicking sound was heard synchronous with the heart beat. It was concluded that there was pus and gas in the pleural space, but there was no definite displacement of the heart, and the apex beat was within the nipple line. Shortly after she had a rigor, a temperature of 105.4° was recorded, and the patient died.

At the *post-mortem* examination the right pleural cavity was full of pus, and the right lung was much compressed. Beads of pus were found in the mediastinum, but none in the pericardium. The stomach was enlarged, and a mass of old tough adhesions connected liver and duodenum. Out of this mass the cystic and common ducts were dissected; it was much distended in two places, and from these two large gall stones were removed, and much dry débris found in the duct beyond. The gall bladder was atrophied. On removing the liver a large quantity of creamy pus escaped from the diaphragmatic surface (subperitoneal subphrenic collection), not covered with peritoneum. There was a hole in the diaphragm where it had burst through into the pleura, and an abscess cavity beneath in the upper surface of the liver about 2½ in. in diameter. On section small multiple abscesses were found in the liver.
