Once the appendix has gained the position described, the veins in the meso-appendix are kinked, but it is probable that the artery with its firmer walls is not. This quickly produces a condition of congestion in the appendix, which the small veins passing directly from the appendix to the caecum, although they are not obstructed, are inadequate to relieve. When this condition once occurs all chance of spontaneous recovery is passed. What appears at the operation to be a tight constriction at the base of the appendix is really only the line of demarcation between the strangulated appendix and the caecum.

These notes are founded on four cases in which the signs and symptoms were identical. They occurred in a total series of fifty-two appendicectomies performed during a period of rather more than three years. The first two cases were operated upon after signs of peritonitis had supervened, in both cases just under forty-eight hours from the first symptom. Both these cases died. They had absolutely general peritonitis by the time operation was performed, and in the first case the appendix was found broken off from its attachment to the caecum. The last two cases were operated upon as soon as the necessary arrangements could be made after first seeing the patients—about six hours after the first symptom. In these the operations were simple enough, and the patients made uninterrupted recoveries, but in each case the appendix was obviously in a condition only just short of gangrene. The majority of my cases have, of course, been in hospital practice; in the four under consideration, however, three were private patients of the better class.

Volvulus is not the only cause of gangrene of the appendix, of course, but I believe it is the cause of gangrene in all cases when it happens in so short a time in the subject of a first attack.

PNEUMOCOCCUS INVASION OF THE THROAT,

FOLLOWED BY PLEUROPNEUMONIA AND
APPENDICITIS: OPERATION AND
RECOVERY.

By WM. ERNEST PEACOCK, M.D.,

WITH A NOTE BY

PROFESSOR OSLER, M.D., F.R.S.

On August 4th, 1908, I was called to see a boy, aged 11, with a sore throat and temperature of 101° F. The pharynx was swollen and congested, and the tonsils were enlarged, here and there displaying dirty follicular concretions. The patient looked ill, and I found he had recently complained of slight pains and stiffness in the limbs. Whilst staying with relatives a few days previously, he became feverish and saw a doctor, who found his temperature one evening to be 102° F.

There was slight irregularity of the heart's action and a faint bruit was heard at the apex. A salicylate mixture was given and rest ordered. In a short time the patient was well. At his school some boys had suffered from indefinite feverish attacks, which were thought at the time to be mild cases of influenza. There was no albumen in the urine. On August 10th a brother of this patient was suddenly taken ill with a sore throat, and the sequence of events in his case was so interesting that I report them at some length:

The temperature was 102° F. The tonsils were enlarged and the whole pharynx was congested. The glands of the neck were markedly enlarged on both sides, especially at the angles of the jaws. Suspecting an exanthem, a swab was taken from the throat and sent for examination to a pathological laboratory: a large number of pneumococci was found. There was no albumen in the urine. The patient was kept in bed and a salicylate mixture given with an antiseptic gargle. He improved for a week. On August 17th he became worse and vomited three times. His temperature registered 101.5°, and next day reached 103° F. Pain was complained of in the lower part of the right chest, both back and front, but especially over the last three right intercostal cartilages. These pains radiated to the abdominal wall as far as the pubes. On auscultation there were a few crepitations, and marked pleuritic friction was heard behind and in front of the right lung, corresponding to the painful area. No friction was heard over the abdominal

cavity. On palpation of the abdomen he did not complain of tenderness, there was no swelling, dullness on percussion, or distension. Nothing abnormal could be felt per rectum. There were, however, shooting pains felt over the pubes with frequency of micturition and pain on passing water. Special attention was given to the region of the appendix, but nothing abnormal was observed. The patient became worse and was acutely ill. Professor Osler, of Oxford, was called in consultation and confirmed the presence of pleurisy with crepitations at the base of the right lung. This condition was thought to explain the radiating pains extending to the pubes.

Afterwards the abdominal pain became more marked, and tenderness was noted in the right flank, with a sense of resistance and slight dullness on percussion. The patient became worse, and the question of operation arose. Dr. Osler again saw the boy, and confirmed the diagnosis of appendicular abscess. He advised postponement of the operation for a day or two, as the patient was not in a fit condition for surgical treatment. On August 30th there was marked extension of the dullness, which now reached mid-line, and extended to the left flank. A fluctuating swelling was felt per rectum in Douglas's pouch. Mr. Parker of Oxford opened the abdominal cavity in the right flank, and made a counter incision in the left flank. A large quantity of foul-smelling pus escaped from both wounds. Large drainage tubes were inserted, the ends meeting well down in Douglas's pouch. The temperature fell, and the patient went on favourably, gaining weight and strength. He was kept out all day in the open air.

On September 17th he became worse, though drainage had been kept up all the time, the tubes being changed and shortened from time to time, and free irrigation carried out by passing lotion from one side to the other twice daily. It became apparent from the condition of the patient that pus was collecting somewhere. On one or two occasions a well-marked scarlatiniform rash appeared all over the body. Mr. Parker carefully examined the patient under an anaesthetic. The old wounds were opened up, and the affected regions explored by the fingers in all directions. No pus was discovered. The examination was repeated on another occasion without result. Large tubes were again inserted, meeting as before in Douglas's pouch.

His condition improved for a while, but he again became acutely ill. Mr. Parker examined the boy once more under an anaesthetic. Per rectum there was suspicion of a fluctuating tumour high up in Douglas's pouch. An operation was arranged for the following day, but during the night a large abscess burst into the bowel. The patient made an uninterrupted recovery. He was confined to his bed for about twenty weeks in all.

The sequence of events is a point of interest in the case, the usual order of infection from below upwards being reversed. During the drainage a "pip"-like concretion passed through the tube into the dressings, and a slough which also passed was thought by pathologists to be part of the vermiform appendix. The patient never had a cough, so that a specimen of sputum could not be obtained for examination. The temperature only once reached 104.5° F., and was lower generally than one might have expected in such a desperate illness, marked by the presence of such large quantities of foul faecal pus. The pulse, on the other hand, was very feeble and quick, rarely below 130 at night. On one occasion fatal collapse threatened, but passed off after a hypodermic injection of strychnine.

I believe the open-air treatment was a very important factor in the treatment of the case. The patient often presented a very curious appearance, one side of his face being quite pale, whilst the other half was scarlet. Occasionally a similar effect was noticed on the trunk.

NOTE BY DR. OSLER.

This case illustrates in an interesting way the relations of appendicitis and pleuropneumonia. At my first visit I regarded the abdominal pain as due to the involvement of the diaphragmatic pleura. This is by no means uncommon, and I have seen a number of cases of pneumonia in which the diagnosis of appendicitis was made. So completely may the abdominal symptoms overshadow the case that laparotomy has been performed.

Then, in a second group, the appendix is involved simultaneously with pleura and lung. It may be hard to say which part is first affected; as a rule the abdominal features predominate.

Thirdly, during the convalescence from pleuropneumonia a patient may have an attack of appendicitis. In one instance of this sort the return of the fever and of the pain were thought to be due to pleurisy, but on the third day there was a well-marked tumour in the right iliac fossa, and an appendicular abscess was opened.

I had an acute regret in this case—the common regret of the physician—that the surgeon was not called in earlier.