mesocolon was oedematous. The gall bladder was atrophied to a fibrous cord and apparently contained some calculi. The peritoneal cavity contained a fair quantity of blood-stained fluid; so far as could be made out, the rest of the abdominal organs were normal. The whole condition looked hopeless, and, as the patient was seemingly at the point of death, I rapidly closed the wound in the endeavour to get her off the operation table alive.

She was removed to the ward, placed in the Fowler position, and rectal salines given. For about a week her condition was most distressing, the pain and abdominal distension being very acute; the restlessness and pain were so severe that I was compelled, against my almost invariable practice in abdominal cases, to keep her under morphine. The bowels, in consequence, did not act until the fourth day, in spite of the free administration of calomel, magnesium sulphate, and turpentine enemata; eserine was given with, I think, good results.

About the tenth day diarrhoea became troublesome; this was relieved by bismuth. After this her convalescence was uneventful, and she left the hospital on December 5th.

Owing to the urgency of the case and the necessity for immediate operation, a specimen of the urine was not obtained, but the urine passed immediately after operation contained a small quantity of sugar, which soon disappeared.

I saw the patient a few days ago, three months after operation, walking briskly in the street and looking the picture of health; she tells me that she feels quite well, but still has the dyspeptic symptoms, and the sour rising in the throat which she had previous to operation.

Though the diagnosis was incorrect and the operation consisted only of a rapid laparotomy and puncture of the stomach, the patient recovered; whether this was *post* or *propter hoc* one cannot say, but she certainly was the most ill patient, both before and after operation, that I have ever seen recover.

I have to thank Mrs. Somerville for her assistance at the operation and for the after-treatment, and Mr. Bradford for the notes on the case.

APPENDICITIS CONSEQUENT ON ACUTE PHARYNGITIS.

By CHARLES BENNETT, M.B.,

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THE case described below possesses features which, although not of a new type, are, in my opinion, noteworthy. Reliable statistics of appendicitis are not too numerous, and the need for them in order to trace the disease to its sources is undisputed. By the findings in this case, both at the operation and at the subsequent histological examination, I am convinced that it is an example of infection of the appendix from a distant infective condition, namely, acute inflammation of the fauces and pharynx, and that the infection was conveyed by the blood stream. Although this cause is recognized in general terms throughout the literature yet, judging from the number of detailed cases on record, instances of it are either uncommon or have for the most part escaped observation.

G. R., female, aged 25, who was admitted to the Western Infirmary, Glasgow, on January 3rd, 1917, gave the following history: On December 30th, 1916, she began to suffer from a catarrhal cold accompanied by "sore throat." On December 31st pain commenced in the abdomen. At first this was felt in the epigastrium, but that same evening it settled in the right iliac fossa, whence it occasionally radiated to the umbilicus. There was no vomiting. Her condition remained thus until her admission to hospital, when, in the absence of the visiting surgeon, Major Duncan Macartney, I was called to see her.

Her general appearance suggested more a thoracic than an abdominal condition. The face was deeply flushed, respirations were rapid, and there was considerable restlessness. Temperature was 102° F., and the pulse rate about 140. Examination of the chest proved negative. The tongue was white with pink spots, while the fauces and pharynx appeared intensely inflamed. The tonsils were not enlarged. There was marked rigidity of the right rectus muscle of the abdomen and tenderness was general over this cavity, but most complained of in the right iliac region.

I opened the abdomen by the gridiron method. The terminal twelve inches of ileum, the caecum, appendix, and a part of the ascending colon were of a deep red colour, while the bowel proximal and distal to these parts was normal in appearance. The redness seemed to map out exactly the distribution of the ileo-colic branch of the superior mesenteric artery. The pelvic organs were normal.

The appendix, which was only slightly swollen, and in which a good lumen could be felt, was removed, and the abdomen closed.

As I expected, the temperature did not immediately settle, but swung irregularly until the fourth day, and about this time also the throat condition subsided. She was dismissed well on January 17th.

As all the circumstances suggested to me that inflammation of the appendix had commenced in a plane nearer peritoneum than mucosa, the organ was sent to Dr. G. Haswell Wilson, acting clinical pathologist to the infirmary, for histological examination. In his report, after referring to evidence of previous inflammatory mischief, he says: "The serous covering and the meso-appendix are intensely inflamed, and show early purulent infiltration."

The formation of pus in this plane with comparatively normal coats nearer the lumen is significant.

Dr. Wilson states that in his opinion the histological evidence supports my view that the infection came from a distance, and the throat condition was a possible causative precursor.

Of course no general conclusion can be drawn from one or a very few cases; and despite the evidence of the source in this instance it seems to me improbable that more than a small proportion of cases can be due to a similar cause. On the other hand, the possibility of such a cause is already admitted by many, and a cause affecting even a small proportion is not to be set aside. Personally I believe that when the etiology of appendicitis has been determined we shall find no one universal cause, but rather that the cases resolve themselves into a number of groups with a definite cause for each.

I am aware that the possibility of appendicitis being caused by infection carried through the blood stream is denied by a few observers. Perhaps the most dogmatic of statements lately made on this head is by Klotz,¹ of Ottawa, who says:

In recent years some authors have claimed that appendicitis is the outcome of a blood distribution of bacteria gaining entrance to the body tissues at some distance from the appendix. The tonsil has been spoken of as the portal of entry. A study of human appendicitis can give no support to this theory. It is rare to find a metastatic abscess of the appendix, and the character of this lesion is vastly different from clinical appendicitis.

Nevertheless, I am satisfied that my case was of metastatic nature. The signs and symptoms were precisely those of acute appendicitis. Even though there was also infection of the bowel in the immediate neighbourhood, the appendix was the focus of danger, and claimed principal attention.

REFERENCE.

¹ *Canadian Medical Association Journal*, December, 1916.

A NOTE ON THE USE OF B.I.P. AFTER BONE-GRAFTING.

By CAPTAIN H. S. BRANDER, R.A.M.C.

THE technique of the operation of bone-grafting rendered necessary by the character of wounds caused by modern projectiles requires careful consideration owing to the fact that the cicatricial tissue is often extensive and the blood supply consequently poor. As the scar tissue must be undermined in order to expose the end of the bone which is to be grafted, and the risk of relighting infection in a wound which has been healed for months avoided, I venture to record my experience with the use of "Bipp" following a bone-grafting operation. This I do because, in my opinion, the strictest aseptic precautions *alone* are not always sufficient.

Corpl. B. P., R.A.M.C., aged 26 years, wounded by shrapnel at the Lancashire landing, Gallipoli, on July 11th, 1915, was transferred to a military hospital in this country on July 27th, 1915. He had a compound fracture of the left radius. A skiagram showed that the bone was fractured in two places—about the junction of the middle and upper thirds and at the junction of the lower and middle thirds. From the history of the case it is evident that there had been much purulent discharge from the wound due to necrosed bone. The sequestrum was removed on October 13th, 1915, and the wound healed about eight weeks afterwards. The patient was discharged from the army on June 8th, 1916, as medically unfit.

As a Chelsea pensioner he applied for treatment at the War Hospital, Keighley, and was admitted under my care on November 13th, 1916. On the extero-anterior aspect of the left forearm there was a healed scar 4 in. by 2½ in., very