microscope there are to be seen bacteria, minute fat globules, and cellular detritus.

The fluid is practically free from albumin. The fermentative action of the fluid has been tested upon fibrin, egg albumen, starch, and butter fat, with the following results:

1. There is slight but quite definite proteolytic action upon the fibrin and coagulated albumin.

2. There is marked diastatic action upon starch, which is converted into a reducing sugar which yields the osazone of iso-maltose.

3. Butter fat is emulsified, but does not undergo sufficient splitting within two hours to show any acid production by the litmus test.

From its general characters and reactions there is good reason for believing that the fluid is from a pancreatic cyst.

On February 17th, 1909, the patient was again seized with violent pain in the epigastrium with vomiting and constipation; the vomit consisted of bile-stained mucus. No food could be retained in the stomach. The pain, which was spasmodic, and passed through to the back, passed off in about three days, and the bowels were well opened by castor oil and magnesium sulphate. The ingestion of food was associated with discomfort about half an hour after, and there were occasional attacks of pain at other times. Some thickening was now made out to the right side of the middle line in the epigastrium, and more discharge had come from the sinus. His progress was not satisfactory; his general condition was not so good, his pulse was quick without elevation of temperature, there was loss of sleep, and the bowels did not act without drugs. He complained a good deal of acidity, and there were occasional attacks of retching with expulsion of mucus, at times bile-stained. He was not able to take anything beyond peptonized milk and some meat jelly.

On March 4th he came to London and placed himself under my care. He seemed very weak and considerably wasted, his pulse was 132, and temperature 99° F.; he was constipated and had frequent attacks of retching.

Examination of the abdomen showed no distension of the stomach. To the right of the old incision there was marked fullness behind the right rectus, passing up under the costal margin, and over this area it was comparatively dull, tender, and definitely elastic. His urine showed nothing abnormal. On the 5th a bismuth meal was given, and four hours later he was examined by Dr. Greal, who found that the bismuth was all retained in the stomach, mainly in two portions, one at the cardiac end and the other at the pyloric. The right dome of the diaphragm was distinctly raised. The diagnosis made was that there was a cystic collection on the right side, probably again in relation with the pancreas, and that pressure was taking place on the pyloric end of the stomach, interfering with the normal exit of the stomach contents.

The temperature on March 6th and 7th was subnormal, rising on the 8th to 100.2°; the pulse varied between 120 and 136.

On the afternoon of March 8th I operated on him, Dr. Crosby being present. The incision was made in the line of the former one, keeping to the right of the sinus. The lower border of the stomach was seen, and the gastro-colic omentum was divided vertically to expose the convexity of a large cystic collection to the right of the mid-line. Careful division over its greatest prominence opened a large cavity which passed away to the right and upwards to below the diaphragm. A considerable amount of dirty turbid fluid escaped which was not offensive, and from the cavity was withdrawn a necrotic piece of tissue, about 2 in. by 1½ in., which looked like pancreas. Into the cavity a tube with a wick was inserted, and this was loosely packed round with gauze. The old sinus was dilated up and a tube was inserted.

Examination of the fluid showed it to be swarming with bacteria, and it gave a pancreatic reaction; the necrotic tissue was pancreas.

The operation was followed by immediate reduction of the temperature to about or below the normal line, and this was maintained; reduction in the pulse-rate took place very gradually, and was probably due to the irritation of the sympathetic nerve plexuses in relation with the cavity. During the first few days there was coughed up at times some blood-stained sputum, unexplained by any physical signs in the chest, though it seemed it might be due to small emboli. Vomiting and nausea ceased after the operation, and the appetite gradually returned, and was inclined to be excessive. With the increase of food the discharge from the tube was very much increased, and considerable irritation of the surrounding skin was produced. As this increased flow was due to the active secretion of the pancreas, on the 16th it was decided to limit the secretion by stopping carbohydrates, reducing the albuminous food, and increasing fats; at the same time 15 grains of sodium bicarbonate were given every four hours. The effect of this treatment immediately bore fruit, and the discharge gradually lessened so that the tubes were able to be left out. On leaving the home on April 14th there was a small sinus left from which there was a very little discharge.

On April 13th he had an attack of pain in the old region, nausea and rise of temperature. He certainly had not eaten discreetly, but he thought he had caught cold. He was readmitted to the home on the 20th with local tenderness and slight jaundice—temperature 100° and pulse 116. In two days he was practically all right again, and he left on the 25th.

About a fortnight afterwards some localized thrombosis of the right saphena vein appeared, which with rest soon subsided. In all other ways he was very much better, except for the persistence of a small sinus.

On June 29th, 1909, he reported that he could not get about much as the leg still swelled. The sinus discharged from a tablespoonful to less than a teaspoonful in twenty-four hours. There had been no return of pain since leaving the home.

The report on November 26th, 1909, was that there was a very small amount of discharge. The diet was still very carefully attended to, and there had been no attacks of pain. His condition was so much improved that he was able to attend to his business.

For the purpose of this paper Dr. Crosby has kindly sent me the following up-to-date report:

The patient is in good health, and is able to play golf. There is still a sinus from which a small amount of thin glairy fluid exudes. He is careful with his diet, but does not keep up such rigorous restrictions as at first. About a year or more ago there was slight loss of weight, but this was regained, and he expresses himself now as feeling very well, and is able to do a full day's work at his business. When I last examined his abdomen there was nothing abnormal to be noted; the liver was normal in size, and there was no tenderness over the region of the pancreas.

This case was also acute in origin, the early symptoms suggesting some acute intestinal obstruction. From what was found at operation it was obviously due to an inflammation of the pancreas, attended by rapid cyst formation, but whether this was in the lesser sac or behind it was not determined; it may be assumed, I think, that it was not in the lesser sac. The development of the second collection illustrates a very likely sequel in these cases. Whether this was into the old cavity or not could not be made out; it was, however, quite separate from the track of the sinus, and much more to the right. I was inclined to view it as a fresh cystic collection altogether, not in the lesser sac, although its position would have done well for a localized collection in the upward extension of the latter to the right above the pancreas.

Attention may be drawn to the marked benefit of the dieting in reducing both the amount of the discharge and lessening its irritating character.

A RENAL CYST CAUSING CHRONIC INTES-TINAL OBSTRUCTION.

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I HAVE been unable to find record of a case similar to the following:

History.

The patient, a woman 52 years of age, stated that for the past three years she had noticed a lump on the left side of her abdomen, which had been getting larger, and seemed to move about. During these three years she had suffered from intermittent attacks of abdominal pain and vomiting. The attacks were associated with constipation, and she had been unable to get her bowels open without the constant use of aperients. Of late they had become more frequent and severe.

State on Examination.

Marked intestinal peristalsis could be seen going on in the neighbourhood of the umbilicus; the abdomen moved well on respiration, and there was no tenderness on palpation. In the left iliac fossa was an elastic swelling the size of a large cocoa nut, which moved slightly with respiration; it could be pushed without difficulty over to the right side of the abdomen, and on turning the patient on to that side the tumour also fell across. The latter always returned to its original situation in the left iliac fossa, and appeared to have a pedicle or point of attachment in the left lumbar region. The left flank was resonant and there was no bulging here.

Operation.

A 6-inch incision was made to the inner side of the left linea semilunaris, the rectus sheath was opened, and the left rectus muscle pulled towards the middle line. On opening the peritoneal cavity a large pedunculated tumour of a cystic nature was seen, which was springing from the posterior abdominal wall in the angle between the transverse and descending colons; several large vessels were seen encircling the neck of the tumour. The transverse colon was hypertrophied and dilated, while the descending colon was small and contracted. Obstruction was being caused by pressure on the splenic flexure of the colon, where it passed round the pedicle of the tumour.

On dividing the posterior peritoneum round the neck of the tumour and pulling strongly on the latter the lower pole of the left kidney was brought into view, and it was seen that the tumour was growing from this organ. Removal necessitated

cutting into the substance of the kidney; the cut kidney surfaces were brought together with catgut stitches, the edges of the opening in the posterior parietal peritoneum united, and the abdominal cavity closed without drainage.

Result.

There was some haematuria during the week following the operation, otherwise recovery was uneventful, and the patient a year after the operation is quite well.

Character of the Tumour.

The tumour proved to be a thin-walled cyst containing clear fluid. The pathological report states that the wall of the cyst consists of renal tissue, undergoing fibrosis in parts.

REMARKS.

The interest of this case lies first in the difficulty of diagnosis. The swelling appeared to be cystic and to have a point of attachment in the left lumbar region. The diagnosis made before operation was that of a mesenteric cyst, and even when the abdomen was opened this was the impression given; it was only when the left kidney came into view that the true nature of the case became clear. A renal condition had not been considered, as there was no swelling or resistance in the left loin and the latter area was resonant; also the extreme mobility of the tumour and its obvious intraperitoneal nature seemed opposed to a condition connected with the kidney.

Renal tumours either have the colon in front of them or push it towards the middle line; it is rare to find them becoming pedunculated and to all intents and purposes intraperitoneal structures to the inner side of the colon, as in this case. Large single renal cysts may be of a serous nature springing from the cortex of the kidney while the rest of the kidney is healthy, or they may be paranephric cysts originating in renal or adrenal rests. Both serous and paranephric cysts may be connected with the pelvis or one of the calices of the kidney by a narrow channel.

The symptoms which these large cysts give rise to are due to pressure on surrounding organs.

The second point of interest in this case is the chronic intestinal obstruction produced. This, I think, was brought about in two ways: in the first place, the splenic flexure of the colon was constricted where it passed round the neck of the cyst, and in the second place, the heavy cyst itself was pressing upon the descending colon.

SUBCUTANEOUS INJECTIONS OF EMETINE IN PULMONARY TUBERCULOSIS.

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In April, 1913, my attention was drawn to a communication in *La Presse Médicale*, of Paris, from Drs. Flandin and Joltrain, in which they reported that they had commenced to use hypodermic injections of emetine for the treatment of haemorrhage in tuberculosis of the lungs, and that the results had been far and away more satisfactory than those obtained by them from any other method. Having at that time several cases of haemorrhage, both severe and slight, under my care at the Battersea Tuberculosis Dispensary, I communicated with Dr. Flandin, asking him for particulars of his method of using the drug. He was good enough to send me by return notes on the cases he had till then treated with emetine, and also a letter giving his conclusions on the action of the drug. He said:

Emetine acts on the haemorrhage, but in an irregular manner on the fever. When it has to do with haemorrhage of the congestive period of tuberculosis the stoppage of the bleeding is absolute; when it has to do with the haemorrhage in a tuberculous patient at the period of softening or of cavity formation, the bleeding stops under the influence of emetine, but for several days the patient expectorates black spots, as if expelling the blood secreted in the bronchial tubes. The effect of the emetine does not seem to be of very long duration.

It is good after the arrest of the haemorrhage to continue for several days a daily injection. I have seen in one case the haemorrhage stopped by the emetine recommence after the cessation of the injections, and stopped again immediately after a single injection.

The experience of Dr. Flandin decided me to try the effects of the drug, and suitable cases soon presented themselves. At first I strictly confined myself to cases of

haemorrhage on the lines that Dr. Flandin had indicated, and with regard to its use in such cases I can endorse all that he claims for it.

Some of the cases on whom I used it had only slight and occasional haemorrhage but copious expectoration, and it was observed that not only did all traces of blood disappear from the sputum, but that the sputum itself decreased or ceased. This observation induced me to employ the drug in some cases of copious expectoration alone, and the results have been sufficiently striking to justify my mentioning them to the profession, in the hope that others will be induced to further investigate the properties of emetine in relation to its effects on congestive and inflammatory conditions of the lungs.

I have now used it on over forty cases, and have endeavoured to note its effect both on haemorrhage and on expectoration. As above stated, I endorse Dr. Flandin's remarks on its effect on haemorrhage, but as he is about to publish the results of his experience with it, I will not enlarge on that aspect of its use.

As I am not aware of anything having been published with regard to its effect on expectoration and cough, I need make no apology for giving my experiences. In analysing these, I find that the cases divide themselves into three groups:

I. Bronchitis in which no tuberculosis can be demonstrated.

II. Cases which are tuberculous, but which do not reveal tubercle bacilli in the sputum.

III. Cases which do reveal tubercle in the sputum.

Group I.—Many patients referred to the dispensary to have a diagnosis made on them are found to belong to this group. It has been pointed out to me that the title of this communication relates to the use of emetine in pulmonary tuberculosis, and that this first group are not tuberculous cases at all. It has to be remembered, however, that all inflammatory conditions of the lungs and air passages prepare the soil for the growth of the tubercle bacillus and that such persons are the very ones who are liable to become tuberculous. Anything, therefore, which assists in keeping his tissues in a healthy condition preserves the resisting power of the individual and is a factor in preventing this disease.

Provided the heart's action is not impaired, cases in Group I nearly always improve rapidly on emetine. The expectoration disappears, and on auscultation the moist sounds cease to be heard. This improvement is not transitory, but remains after the injections of emetine are discontinued. It has often been very striking how subjective and objective improvement have accompanied each other, the patients voluntarily stating that they have felt better since the emetine was begun. It has, however, to be emphasized that the heart's action must not be weak. If it be weak the bronchitis does not improve. Unfortunately many cases of bronchitis, both complicated and uncomplicated with tuberculous disease, have such a weakness of the heart, and this must be remedied before emetine is of any use.

Once only, when I pushed the dose a little beyond the usual amount, the patient complained of slight nausea. This passed off immediately on the drug being withheld, and I have observed no other undesirable effect which could be attributed to its use.

The following case may be cited to illustrate the group:

A. B., female, aged 9. For several months had had a cough with expectoration, which latterly had become copious. In such a young child's sputum tubercle bacilli are seldom found, but we examine it in all cases that have expectoration. In this case the sputum was examined three times carefully, with a negative result each time. Von Pirquet's test was applied twice and was negative both times. There was no dullness to be made out in the lung and no noticeable prolongation of expiration, but moist crepitations were heard all over. During three weeks injections of emetine were given twice weekly, and after the last injection the breath sounds were clear and the cough gone. No other treatment was given.

This is a recent case, and I still have her under observation.

Group II.—Several cases with physical signs and histories pointing to tuberculous disease, and giving good reactions to subcutaneous injections of tuberculin, but in whose sputum no tubercle bacilli could be found, have been treated with emetine, and with no other drug. These