100°, and there was a certain amount of general abdominal tenderness, but no rigidity or tender spot. The motions were green and extremely offensive. Next morning the temperature was still 100°, and there was distinct tenderness over the appendix area, but there was little abdominal rigidity; there had been no vomiting. I saw the child again that evening, when the mother told me that he had had a good deal of pain throughout the day. The temperature was then 102.5°. Pulse 120, abdomen slightly distended and acutely tender over the appendix, with rigidity of the muscles. My partner, Dr. E. L. Robinson, agreed in the diagnosis of acute appendicitis.

Next morning I operated. The patient was given chloroform throughout the operation. He took the anaesthetic well, kept a good colour, and gave no anxiety. I made an incision 1 in. in length over the usual spot, and on passing in my finger felt what at first I took to be the tip of a much enlarged appendix. On drawing this out of the abdomen I found it to be a gland, about the size of a large pea, and acutely inflamed. After removing this I found the appendix. There was one old adhesion, and it was thickened. After removing the appendix I inserted my finger into the abdomen again and felt a mass apparently behind the caecum, from which extended what I took to be a chain of glands towards the liver. I then closed the abdomen and put the child back to bed about 1 p.m., the operation having taken just under one hour.

I again saw the patient at 4.30 p.m., when the nurse reported that he had not vomited, had dozed as much as three-quarters of an hour at a time, and was fairly comfortable. The pulse was 120, and the child had a good colour and facies. He vomited at 6 p.m. and 8 p.m., each time after having sips of hot water. At 9.30 p.m. his pulse was still 120, and he was somewhat restless, but otherwise seemed doing well; temperature 99°. At 7 a.m. I received a telephone message, and on arrival at the hospital I found him unconscious, tossing about, grinding his teeth, and making faces. The nurse said that he had had a good night up till 5 a.m., when he awoke from a sleep, vomited some mucus stained with "coffee grounds," and then commenced grimacing and gradually lapsed into unconsciousness. His pupils were equal, reacted to light, and were slightly dilated. The extremities were rather cold; pulse 130 and soft. I ordered him a hot saline enema, and gave a hypodermic injection of 2 minims of liquor strychninae. The child died without a struggle at 10 a.m., exactly twenty-two hours after the operation.

On inquiry from the mother, I found that five months previously the child had been ill for three weeks with a "bilious attack" and abdominal pain.

I obtained permission to make an examination of the abdomen. The site of the operation was normal, the appendix stump was buried, and there was no sign of leakage nor of general peritonitis. On examining the mass I had felt at the operation, it proved to be a caseating gland, the size of a walnut. This I removed for examination. The liver was extremely pale, and on section was canary colour, with here and there streaks of purple. I drew off some urine with a catheter, and found that it reduced Fehling's solution.

I sent the gland removed at the operation, the appendix, the caseating gland, and a piece of the liver to the Clinical Research Association, and received the following reports:

"This appendix shows chronic inflammatory changes in the mucous membrane and proliferation of the lymphoid tissue. It presents no evidence of tubercle. The gland, on the other hand, is typically tuberculous. It contains giant cell systems, some of which are undergoing caseation.

"This liver shows fatty degeneration of the hepatic cells, but in addition there is a leucocytic infiltration around the vessels and bile ducts in Glisson's capsule. This suggests an infective or septic cholangitis, which we conclude must have existed before the operation. The gland contains definite caseating giant cell systems, which are certainly tuberculous. It is possible that delayed chloroform poisoning may have something to do with the fatty degeneration, but we cannot help thinking that it is more likely to be a septic condition."

I may add that no carbolic acid was used at the time of operation.

TREATMENT OF THE SMALL INTESTINE IN OPERATIONS FOR INTESTINAL OBSTRUCTION.*

By C. HAMILTON WHITEFORD, M.R.C.S., L.R.C.P.

GIVEN a case in which the intestine is completely obstructed, either in the region of the caecum, or higher up in the small bowel, what are the duties of the surgeon?

In a patient almost *in extremis* the actual obstructing cause has to be neglected, and an enterostomy—that is, opening and draining the first distended coil which presents through a small median abdominal incision—is all that is justifiable, and may give the patient a fighting chance.

* Read before the South-Western Branch of the British Medical Association.

To a patient who can stand a general anaesthetic the duties of the surgeon are two:

1. To evacuate completely from the distended bowel the quarts of liquid which are poisoning the patient and are paralysing and causing a succession of partial kinks in the intestinal walls.

2. To restore the patency of the intestinal tract by either (a) removal of the obstruction, or where this is impossible by (b) a short-circuiting operation.

A partial, as opposed to a complete, emptying of the distended bowel is not infrequently performed, simply because the surgeon finds that, without this partial evacuation, it is impossible to replace within the abdomen the whole of the distended intestines. The time occupied by the operation must always be an important factor in the prognosis of these cases. But, while the time-consuming process of making a series of incisions into the distended coils remained the only efficient method of emptying them, the surgeon has usually contented himself with emptying the bowels sufficiently to allow of their being replaced within the abdomen.

It is hardly surprising to find that in many cases the intestines, in their paralysed, kinked, and crowded condition, fail to empty themselves even after relief of the original obstruction, the patients dying, poisoned by the foul intestinal contents.

The plan devised by Moynihan, of emptying the intestines by threading them on a straight tube, has placed in the hands of the surgeon a means by which the distended bowels can be rapidly and completely emptied. The tube, made of either metal or glass, is 8 to 10 in. in length and $\frac{3}{4}$ in. in diameter. The end, which is inserted into the bowel, is cut obliquely with smooth edges. Two inches from the other end is a flange, and beyond the flange the tube terminates in a rubber tubing for conducting away the intestinal contents. In selecting a tube it is necessary to make certain that the oblique end of the tube is quite smooth and blunt. Some of the tubes on the market lack both these essentials, and are well calculated to injure, or even perforate, the engorged and softened intestine.

A loop of bowel, emptied preferably by a milking movement, is clamped by the fingers of an assistant, and is incised longitudinally on its convex border. The tube is inserted, and the bowel and tube, wrapped in gauze, held by an assistant so as to prevent leakage by the side of the tube. As each coil is emptied the collapsed bowel is threaded on to the tube by the surgeon. Each inch of the tube will carry a foot of collapsed intestine. The intestinal incision is best made in the centre of the distended bowel, so that the tube may be passed first upwards to empty the jejunum, and then through the same intestinal incision downwards to empty the ileum. If, when the tube has been completely loaded with collapsed intestine, there still remains unevacuated a short length of bowel, its contents can easily be removed by milking them down to the end of the tube. It is quite easy in fifteen to twenty minutes to empty the whole length of the small intestine.

The conclusions which this paper is intended to emphasize are:

1. Excluding those cases which are nearly moribund and in which an enterostomy is all that is justifiable, it is essential that the operation, in addition to relieving the obstruction, should empty the distended small intestines of their poisonous contents.

2. The most efficient and rapid method of emptying the small intestine is to adopt Moynihan's plan of threading them on a straight tube.

[The method of using the tube was demonstrated on a model. In replying to the discussion on the paper, it was pointed out that the method, the value of which the reader of the paper had personally proved, was not of very recent origin, being at least three years old.]

LEPROSY CONFERENCE.—The conference on leprosy recently held at Bergen unanimously passed the following resolutions: (1) It is necessary that in countries where leprosy exists means of segregating the sufferers should be provided. (2) It is desirable that the children of lepers should be separated from their parents as soon as possible and kept under observation. (3) Those who have lived with lepers should be examined from time to time by practitioners having special knowledge of the subject. The last resolution was based on the possibility of the transmission of the disease by means of sucking insects.