end of the inverted bowel were inflamed and adherent, and the peritoneal sac contained a little clear fluid. The peritoneum generally, and that of the greater portion of the inverted intestine, appeared healthy. A tube having the position and relations of the vermiform appendix was thickened and distended and fixed in its whole length (two inches) by old adhesions. It was soft and its cavity communicated with that of the caecum through a narrow opening.

This dog obviously suffered from chronic appendicitis and from an intussusception which proved fatal. The conditions were exactly those which might be found in a child. I had, however, some doubts about the teaching and, on consulting *Quain's Anatomy*, I found the following: "So far as is known, the appendix is peculiar to man and certain of the higher apes, and to the wombat" (*Quain*, ninth edition, vol. ii, p. 614). Mr. Powell, the librarian of the Royal Society of Medicine, kindly looked up the authorities for me and wrote that "all the books and treatises we have state definitely that the appendix is wanting in domestic animals."

No opportunity to dissect another dog has presented itself, but a paper recently published by W. A. Costain of Toronto gives evidence that the dog has an appendix. This paper is most interesting. It records that when a ligature is placed on the appendix and the meso-appendix of a dog septic peritonitis follows and is fatal in about two days (*Surgery, Gynecology, and Obstetrics*, vol. xxxvi, p. 365). But if the thoracic duct is ligatured and drained twenty-four hours after ligaturing the appendix, the poison, instead of being taken into the blood stream, is discharged from the body and recovery takes place. A collateral lymph circulation develops, and the drainage fistula heals spontaneously. Dr. Costain tied and opened the thoracic duct, close to its entry into the vein, in the neck of a 9-year-old child suffering from acute pneumococcal peritonitis. No abdominal operation was performed except the removal by aspiration, for examination, of half a cubic centimetre of pus from the right side of the peritoneal cavity. This pus contained pneumococcus iv. Rapid disappearance of all symptoms proved that septic absorption had ended. The abnormal abdominal conditions gradually subsided, and the patient was discharged, cured, twenty days after the operation.

The extraordinary power of the peritoneum to get rid of infection is one of its most remarkable features. Nevertheless septic peritonitis is common, and when definitely established it is usually fatal. Hence a main object of surgeons during the last forty years has been the prevention of septic peritoneal infection. This has been in great measure effected by averting its causes. But still it occurs, and Dr. Costain's observations prove, as he claims, that "when a fatal absorption is overcome, the peritoneal cavity is capable of looking after such a formidable structure as a necrotic appendix." It would appear, therefore, that lymphaticostomy must be considered an important and hopeful treatment for the prevention and cure of septic peritonitis in suitable circumstances.

A SERIES OF CASES RESEMBLING PARALYTIC ILEUS.

BY

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THE following cases have come under my treatment during the last three years, and I am publishing them not only on account of their interest but also to invite correspondence as to the cause. I can find nothing described in the various systems of surgery which in any way resembles the cases under report.

CASE I.

In July, 1921, at Rawal Pindi Civil Hospital, a well developed young Punjabi, aged 22, came in complaining of abdominal pain and giving a history that his bowels had not been open for ten days. He did not appear to be in the least distressed and except for a distended abdomen was otherwise normal. His tongue was clean, pulse 80, temperature 98°. Pain was of a general character and no special point could be elicited on palpation. Per rectum nothing abnormal was felt.

He was admitted and given an enema with oil, soap, and turpentine. Water only by mouth. Seen the next morning, his general condition was the same. There was no sign of peritonitis. The enema had been passed almost clear. The abdomen remained distended and he complained of rather severe pain. A second enema was given and 1/2 c.cm. pituitrin hypodermically. He passed urine but no flatus, and the wash-out was returned clear. Seen again the following day he was in the same condition. He had not vomited, there was no rigidity, his pulse remained 80, and his temperature normal. He however complained of more severe pain, so I decided to do a laparotomy.

The operation was done that morning under chloroform. On opening the abdomen free blood-stained fluid escaped at once (I suppose in all there were two pints of free fluid), the small intestines, in large distended coils, and purple in colour, evacuated themselves and were immediately surrounded by hot saline towels. The large intestine was seen to be equally distended but not so discoloured. No line of demarcation of strangulation was seen, in fact the large intestine was distended down to the lower sigmoid. A rectal tube was passed well up the lower bowel and at the same time the small intestine was punctured by a large trocar and cannula and the contents as much as possible evacuated. Two ounces of mag. sulph. in ten ounces of water were introduced into the small intestine at the last puncture. Four punctures in all were made, three in the small and one in the large intestine. The intestines were returned fairly easily and the abdomen closed. Pituitrin 1/2 c.cm. was given four-hourly for six doses. The rectal tube was left *in situ*. The patient was kept in Fowler's position, and only sips of hot water given by the mouth. He made an uneventful recovery and left the hospital fourteen days later.

CASE II.

At Rawal Pindi two weeks later, a frail woman, aged about 40, walked into hospital complaining of abdominal pain and giving a history of absolute constipation for fourteen days. As in the last case, except for a distended abdomen there were no signs or symptoms of disease. She was a feeble creature with a small pulse and no physical reserve. She was given an enema as in the previous case, with the same result. The next morning as she was no better I decided to do a laparotomy and the operation was done as in the previous case.

On opening the abdomen there was no free fluid, but the intestines had the same purple appearance and were greatly distended. The same routine was carried out as rapidly as possible and the abdomen closed. In spite of pituitrin, camphor in oil, nux vomica, and enemata, her bowels refused to act and she died three days later. No obstruction was found at the time of operation and at necropsy no signs of inflammation, kinks, or bands.

CASE III.

At Jullundhar in November, 1921, an emergency case of intestinal obstruction was admitted at 5 p.m. The patient was an old, frail, wizened-up man about 60 years of age. He gave a history of absolute constipation for fourteen days, and had a distended abdomen with some abdominal pain. He had come in by road eighteen miles in an ekka and walked from it to the surgery. He was given an enema and a stimulant draught. The enema produced no result.

At 6 p.m. a laparotomy was performed. Free blood-stained fluid escaped from the abdominal cavity. The small intestine was distended, but the most curious feature was that the internal and muscular coats appeared to have given way in places and the peritoneal coat only remained intact and that was distended in large beads about the diameter of a sixpenny piece. The case was so obviously hopeless that a Paul's tube was tied in and the patient returned to the ward. He died the same night. In getting the Paul's tube out the abdomen was opened and again no visible obstruction was found.

CASE IV.

At Delhi in January, 1923, a Pathan boy, aged about 18, was admitted with a history of nine days' constipation and a painful distended abdomen. His tongue was foul, pulse 100, temperature 99°. An enema was given without result, and he was operated on almost immediately afterwards.

At operation the same condition of the intestines was found except that the large intestine was not so distended. The only possible cause of obstruction was a slight mesenteric kink at the hepatic flexure of the large intestine, but was not sufficient to cause more than slight partial obstruction. The gut did not contract down well after evacuation of the contents by the cannula, nor did much material or gas escape by the rectal tube. In spite of all the usual remedies he never passed flatus, and died three days later.

If a complete *post-mortem* examination had been possible on these last three cases some cause might have been found to account for the condition; but what about Case I, who was apparently of the same type? I feel that I cannot be the only civil surgeon in India who has come across this type of case and should be glad to hear the experience of others.

In the first two cases I was assisted by Assistant Surgeon Gopal Dass and Sub-Assistant Surgeon Chand Narain; in the third case by Khan Sahib Mohammed Shariff; and in the last case by Lieut.-Colonel H. Hallilay, I.M.S.