Medical Memoranda

Enteric Intussusception Presenting as a Cystic Abdominal Tumour

The protean manifestations of acute abdominal emergencies are only too well known to the surgeon, and the following case is recorded not merely to demonstrate unusual clinical findings in such a condition but to show how one can be misled in their interpretation. The rarities in medicine are sometimes self-evident if one is acquainted with the condition, but the mistakes in the diagnosis of the commonplace are often due to a wrong interpretation of the clinical findings, even after a careful examination.

CASE REPORT

A girl aged 13 was admitted to this hospital on August 28, 1949. Eight weeks previously she had been admitted elsewhere with colicky abdominal pain. She had had no vomiting at that time, and no significant clinical findings had been elicited. The pain had subsided after two days, and she had been dismissed from hospital after four days. During the four weeks before admission here she had felt vaguely unwell, listless, and lacking in energy. The abdominal pain recurred on August 27 and was more severe than formerly, colicky in character as before, but this time was accompanied by vomiting on several occasions. Her bowels had moved regularly once daily during all this time, and she had had no symptoms referable to micturition.

On admission on the evening of August 28 she was pale, listless, and complained of colicky abdominal pain across the umbilical region. Her tongue was clear and moist. Her temperature was 98.5° F. (36.95° C.), and pulse 98. The abdomen moved freely on respiration, and a large globular swelling was present just to the left of the umbilicus and extending more upwards than caudally. On palpation this swelling proved to be smooth, tense, globular in outline, and about 4 in. (10 cm.) in diameter. It was slightly tender; there was no abdominal muscular rigidity or rebound tenderness. The swelling did not move on respiration, but could be displaced an inch or two across the abdomen, and also in a plane at right-angles to this, and was dull on percussion. No other abnormality was noted during a full clinical examination. Nothing abnormal was found per rectum.

The colicky pain persisted until the morning of August 29, and the patient vomited small quantities of fluid immediately after drinking. Her temperature was 97.5° F. (36.35° C.) and pulse 98. It now seemed clear that this child had a large, globular, fluid-filled swelling in the abdomen which could not have been present to such a degree eight weeks before, and that it had undergone acute change in the past 24 hours. This relatively rapid change would appear to have been either alteration in its blood supply or else infection, more probably the former. A mesenteric or ovarian cyst which had undergone torsion of the pedicle or a volvulus of an intestinal loop seemed to be the most probable diagnosis, particularly the former. It must be emphasized that the vomiting was infrequent and small in amount, and in no way typical of small-intestinal obstruction 24 hours after the onset.

Exploratory laparotomy performed on the morning of August 29 exposed a large jejuno-jejunal intussusception. It was difficult to reduce in the normal fashion, as it was formed of the highest part of the jejunum right up to the duodeno-jejunal flexure, and there was a large quantity of serous fluid between the entering and returning layers of the intussusceptum—hence the cystic nature of the swelling. Reduction was finally completed, and at the apex a polyp was present.

The bowel was viable, a few sero-muscular tears had occurred, which were repaired, and the small portion of bowel with the polyp was resected with end-to-end anastomosis.

Entero-enteric intussusception is by no means an uncommon condition and is often precipitated at the site of a small tumour of the bowel wall. The classical presentation of a sausage-shaped tumour, blood per rectum, colicky abdominal pain, and vomiting, though typical of the ileo-caecal variety in early childhood, may all be absent in the older child and adult, and in this older age group entero-enteric intussusception may present a difficult problem in diagnosis. Yet it is fair to say that the picture presented in this case of a tense, mobile, slightly tender, globular cystic swelling, dull on percussion, does not suggest the true diagnosis.

I wish to express my gratitude to Mr. J. Hinton Robertson for permission to record this case and for his help and advice.

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Gastro-gastric Intussusception Produced by Pedunculated Intragastric Tumour

The following case is interesting enough to be placed on record.

CASE REPORT

The patient, a frail old man of 72, was admitted to a medical ward of the Burnley General Hospital with cardiac failure. Eight days after admission, while under treatment for his cardiac condition, he complained of a feeling of heaviness and pain in his epigastrium and of nausea. Barium visualization of his stomach revealed a gastric ulcer on the lesser curvature, a slight irregularity of the pylorus, and no delay in the emptying rate of the stomach.

The gastric condition was treated medically, and, apart from occasional slight epigastric discomfort, the patient remained free from gastric symptoms until the 31st day after admission, when severe abdominal colic and vomiting suddenly started. He was examined shortly after the onset of these symptoms and found to be shocked and retching almost continuously. His abdomen showed a generalized slight distension and was tender in the epigastric region. No rigidity was present, no mass was palpable, and no peristaltic movements could be seen. Increased intestinal sounds were heard on auscultation, but it was not noted that they were maximal over any particular point. A provisional diagnosis of small-intestinal obstruction was made, a Ryle's tube was passed into his stomach, and an intravenous saline drip was started.

During the next four hours the patient's general condition improved, but his colicky pain and retching, although less pronounced, were still present. Difficulty was experienced in keeping the Ryle's tube in place as a result of the retching, and at no time were any gastric contents aspirated through it. At the end of this four-hour period it was decided that his general condition was good enough to warrant operation.

Operation.—The abdomen was opened through a midline incision under local infiltration analgesia. No small-intestinal abnormality was apparent. On exposing the stomach a part of the greater omentum (subsequently found to measure approximately 4 in. (10 cm.) at its attachment to the greater curvature) appeared to be drawn into a depression on the greater curvature in the lower part of the body of the stomach. This omentum was gripped firmly enough to prevent the tip of the finger being introduced through the margins of the depression. Subsequent palpation revealed a gastro-gastric intussusception with its apex at the pylorus. Gentle traction and manipulation did not reduce it. The duodenum was then examined, and on palpation a mobile rounded tumour about 1 in. (2.5 cm.) in diameter could be felt through the duodenal wall about 2 in. (5 cm.) from the pyloro-duodenal junction. This was easily moved back into the stomach, whereupon the intussusception immediately became reducible. A transgastric exploration of the condition revealed a pedunculated, firm round tumour, 1½ in. (3 cm.) in diameter, with a 2-in. pedicle attached to the mucous membrane of the body of the stomach in the line

of the greater curvature. The tumour and its pedicle were removed and its origin touched with a diathermy. The presence of a gastric ulcer on the lesser curvature reported in the x-ray film was confirmed, a small ulcer $\frac{1}{4}$ in. (0.5 cm.) in diameter being present. The incision through the stomach wall was repaired and the abdominal incision closed.

The patient's post-operative progress was disappointing. No further symptoms referable to the gastric condition were experienced after operation, but on the fourth post-operative day auricular fibrillation developed and he died of cardiac failure twelve days later.

A report by Dr. G. Behr, pathologist to the County Borough of Burnley, on the specimen removed at operation states: "A small part of the tumour near the base contained normal gastric glands, but most of it had the structure of an adenocarcinoma. This was probably originally an adenomatous polyp which had undergone malignant transformation."

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Multiple Intussusceptions

While it is not uncommon to operate occasionally on a patient with two intussusceptions, I think that the present case is unique in that three were present.

CASE REPORT

The patient, aged 3½ years, was admitted to the Newcastle General Hospital at the end of 1948. The mother said that for the past three weeks he had been suffering from attacks of abdominal pain accompanied by facial pallor. Within a few moments of the onset of the first attack he passed some blood in the stool. These attacks of pain had since occurred daily, but there had been no recurrence of blood in the stool.

Examination on admission did not reveal any abnormality, nor did a barium enema. On the following day he had two attacks of pain, and a tumour could be palpated in the right iliac fossa. A second barium enema showed the barium flowing as far as the caecum. The terminal ileum could not be filled. The caput caeci showed an indentation at the base and a filling defect within its lumen suggestive of an intussusception.

Through a muscle-cutting incision in the right iliac fossa I demonstrated an ileo-ileal intussusception about 2 in. (5 cm.) long, its apex being about 12 in. (30 cm.) from the ileo-caecal valve. It was easily reduced, but a ring of muscle persisted. This was due to the spasmodic contraction of the bowel causing the two layers to adhere firmly together. It was interesting to watch this ring of muscle round the bowel, as it showed the mechanism in the formation of an intussusception. It appears that the longitudinal muscle contracts, the wall bulges out to form a ring composed of the two layers of the wall, rather like a de Pezzer catheter, and subsequently the proximal portion is forced through the distal bowel. No other abnormality could be seen in the bowel, and after five minutes the thickened ring had disappeared. In view of the history suggestive of frequent attacks of recurrent intussusception I removed the child's appendix, in the hope that further attacks would be prevented.

The child made a good recovery from the operation and was discharged home a week later. For the next three days he remained fit and well, and then attacks of abdominal colic lasting for about five minutes began again. The next day he had a severe attack of pain and vomited once. The child was readmitted to hospital and examination did not reveal any abdominal mass. A barium enema on the following day was negative.

The next day the child had two attacks of severe pain and he was given another barium enema. The radiologist reported: "The enema flowed to near the caecum, where it was held up without filling the caecum completely or flowing into the ileum. The appearance was not very definite, but it seemed almost certain that there was an intussusception. Maintained pressure

did not appear to have any effect, so it was released and the barium run off by the tube. Shortly after this a vigorous peristaltic movement was seen near the caecum and barium appeared in the ileum. The pain ceased and the impression was that the intussusception had been reduced."

For the next two weeks he was kept under observation. He had occasional attacks of abdominal pain, sometimes with a palpable tumour in the right iliac fossa. Gradually the attacks became less frequent with atropine treatment, and after a week free from symptoms he was again discharged from hospital.

Five days later the symptoms reappeared and he was readmitted. This time a visible and palpable mass was present in the right iliac fossa. It extended to the liver and was slightly tender on palpation. At operation an ileo-colic intussusception with its apex at the hepatic flexure was demonstrated. It reduced quite easily. The terminal ileum was thickened and dilated. This was followed up, and a second intussusception was found about 12 in. (30 cm.) from the ileo-caecal valve. As the bowel still remained thickened I withdrew more of the ileum from the wound, when a third intussusception was found. This was about 2 in. (5 cm.) long, and when reduced showed a small invaginated Meckel's diverticulum at the apex. This was excised. The bowel proximal to this diverticulum appeared normal. The child made an uninterrupted recovery and was finally discharged from hospital ten days later. When last seen, a month ago, he was fit and well and had had no further trouble.

This case was of interest in that a Meckel's diverticulum had made the intestine so irritable that recurrent intussusceptions had been taking place. At operation it was possible to observe the actual mechanism of the production of an intussusception. Finally the irritability of the bowel was communicated along its length so that three intussusceptions separated from each other by several inches of bowel were produced simultaneously.

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Ileo-colic Intussusception of Traumatic Origin

The following case is of interest in that trauma initiated an attack of intussusception.

CASE REPORT

The patient, an inmate of a boys' industrial school aged 17, was admitted to the Colonial Hospital, Port-of-Spain, on April 10, 1948. While boxing at about 5 p.m. the previous day he received a severe blow in the right lower abdomen. He complained of central abdominal pain which became gradually worse, and at 6.30 p.m. he vomited undigested food and was then given a purgative. He was referred to hospital at 7.30 p.m. on the 10th with a diagnosis of "acute abdomen, ? volvulus."

On examination he was seen to be an ill-looking youth. His tongue was coated. Generalized abdominal tenderness and muscle guarding were present, and a tender mobile mass was palpable to the right of the umbilicus. His temperature was 98.4° F. (36.9° C.), pulse 96, and respirations 24. Two enemata were given without result and he was prepared for laparotomy.

First Operation.—Under light cinchocaine hydrochloride ("nupercaine") spinal analgesia the abdomen was opened through a right paramedian incision. It became immediately apparent that the condition was one of ileo-colic intussusception. Reduction was effected with extreme difficulty and it was necessary to resect 33 in. (83.8 cm.) of gangrenous terminal ileum. The ileum immediately proximal to the caecum was viable, and the operation was rapidly completed by forming a double-barrel ileostomy.

The post-operative course was satisfactory and the patient was discharged on May 20, but owing to pressure on beds the closure of the ileostomy was not possible until August 19.

Second Operation.—On August 19 under light cinchocaine hydrochloride spinal analgesia an ileo-caecal anastomosis and