ILEO-CAECAL TUBERCULOSIS

CASE REPORT

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In March, 1942, I was asked to see a man aged 34 with pain in the region of the umbilicus, which had persisted for three and a half months. The pain was colicky in nature and at the onset occurred chiefly in the evenings. During some days he was quite free, but when the pain came on the passing of wind made no difference. About six weeks after the onset the pain came on every night and at times during the day. At this time there was no vomiting and his bowels were open regularly. He saw a physician who advised his going for a holiday, but the pain got worse and eventually an X-ray by a barium meal and enema showed a filling defect in the region of the caecum. I was then asked to see him again. For the past three weeks he had gone off his food, partly because he was somewhat afraid that food might cause the pain. He had lost weight and looked ill.

On examination a very definite mass could be felt in the right iliac fossa. It was firm, irregular and somewhat nodular. It could be moved from side to side and also moved on respiration. The diagnosis seemed to rest between a carcinoma of the caecum and a tumour of inflammatory nature. On re-examining the X-ray, although there was a filling defect there seemed to be little, if any, infiltration. This was unlike malignant disease and suggested that the mass might be inflammatory. He was admitted to hospital. During the week he was in, before operation, he vomited.

Previous History

Apart from an operation for left inguinal hernia six months before the onset of the present symptoms, he had had no previous illness of note.

Operation

The abdomen was opened by an incision in the right linea semilunaris. The caecum, small intestine (for about a foot) and a portion of the ascending colon were infiltrated with small nodules which were especially marked over the caecum and the small intestine. The ileum showed no suggestion of a ‘hose pipe.’ This did not look like regional ileitis nor did it look like malignant disease. My opinion was that the lesion was tuberculous. About a foot and a half of small intestine, together with the caecum, ascending colon and hepatic flexure were resected and the cut end of the ileum was anastomosed to the transverse colon by end-to-end anastomosis. Recovery was uneventful and the wound healed by first intention. The pathological report showed a characteristic tuberculous lesion.

Ileo-caecal tuberculosis is a much rarer disease than was formerly thought. This case, however, is a true example of it and differs in many respects from Crohn’s disease.

RADIOLOGY

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Investigation. This should include barium meal and barium enema, each being complementary to the other. The former provides for examination of the lower ileum as well as the caecum and ascending colon, in addition to giving evidence of hypermotility of the intestinal tract. The head of the meal may be in the rectum while some is still in the stomach (Brown, 1930) (see also Fig. 1). The enema gives a truer picture of the actual degree of narrowing of the caecum and ascending colon since the pressure mitigates to an appreciable extent deformities due to irritability and spasm which the meal cannot overcome. The extent of actual organic contracture is therefore more easily assessed. A marker is placed on any palpable mass felt. The degree of fixation or otherwise of the area is determined on screen examination together with tenderness and its distribution on palpation. The mucosal pattern is studied fluoroscopically and multiple spot films are preferable to show mucosal changes and the constancy of the filling defects.

Interpretation. (a) The most important X-ray evidence of ileo-caecal tuberculosis is the marked intolerance of the caecum to barium. With the barium meal the ileum and transverse colon are seen filled, while the caecum is mostly empty (Fig. 2).

(b) Stierlin’s sign shows either a gap or a thin trickle of barium in the caecum due to spasm or combination of spasm and narrowing of the lumen by encroaching granulation tissue. Fig. 3 illustrates a classical Stierlin’s sign. Although considered nearly pathognomonic of caecal tubercu-
FIG. 1.—Barium meal, showing the head of the meal in the rectum whilst some is still in the stomach.

FIG. 2.—Barium meal, showing the ileum and the transverse colon filled whilst the caecum is almost empty.

FIG. 3.—A typical Stierlin's sign.

FIG. 4.—Barium meal still present in loops of lower ileum after 24 hours.
loss, this sign has been demonstrated in Crohn’s disease (Shanks, 1939).

(c) Deformity of the caecum is constant; the barium shadow tends to be funnel-shaped or conical with the apex downwards, due to thickening of the wall and narrowing of the lumen. The outline is usually irregular.

(d) Sometimes areas of half density are seen projecting into the barium-filled lumen, giving an appearance of ‘finger-printing.’ This may occur in about 8 per cent. of cases (Blumberg, 1927).

(e) Irregular narrowing of the terminal ileum is sometimes seen, due to spread from the caecum (Fig. 2).

(f) Later, when obstruction predominates, the barium meal may show dilated loops of terminal ileum (Fig. 1), which in addition lose their mucosal markings. Barium may still be present in these loops at 24 hours (Fig. 4).

(g) Ileal stasis and segmentation of the lower ileum are suggestive of ulceration which accelerates the transit of the barium meal below and retards it above (Feldman, 1948) (Fig. 4).

(h) Mucosal studies of the caecum may show destruction of the mucosal pattern.

(i) In the air contrast barium enema a ‘cobbled’ appearance of the mucosal surface of the caecum may be seen in early stages of ulceration before the condition has progressed to luminal deformity (Boles, 1934).

(j) Sometimes the mass of granulation tissue in the caecum is so great that, in the barium enema, obstruction is almost complete (Fig. 5).

(k) On palpation, during fluoroscopy of the ileo-caecal region, tenderness is present. Rigidity and fixation of the caecal walls are usual.

(l) Complications such as fistulous tracks or intussusception may be demonstrated.

**Differential Diagnosis.** The radiographic appearances of ileo-caecal tuberculosis, carcinoma of the caecum and actinomycosis (in the absence of a classical Stierlin’s sign) may be so similar that only with all the clinical data available can a firm diagnosis be made. Even then, cases will arise in which the diagnosis will still remain in doubt. Spread to the ileum favours tuberculosis. Localised appendicular abscess and retro-peritoneal abscess leave the mucosal pattern intact. Crohn’s disease involves usually the terminal ileum, but the caecum may be involved. The narrowing of the terminal ileum is irregular and Kantor’s ‘string sign’ may be demonstrated (Kantor, 1934). Amoebic ulceration and localized ulcerative colitis may be considered if clinically suspect.

The closest integration of the radiological findings with the clinical data is essential in most instances before a firm diagnosis can be made.

**BIBLIOGRAPHY**

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