Cathartic Colon with Unusual Histological Features

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SUMMARY

A case report of a patient with a long history of constipation, surreptitious and overt purgative abuse, is presented. The radiological appearances were characteristic of cathartic colon. Macroscopic examination of the colon showed the lesions to be situated mainly in the caecum and ascending colon. The histology showed atypical features, with discrete linear ulceration and eosinophil infiltration, but not melanosis coli. It is suggested that a variety of histological changes, some simulating localised ulcerative colitis, may occur in cathartic colon. The pharmacological and pathophysiological effects of irritant purgatives are discussed.


Recognition of a condition associated with the excessive ingestion of aperients was made by Heilbrun in 1943.1 Only rarely has it been subsequently documented. This article describes a further case with characteristic radiological findings, but unusual histological features.

CASE REPORT

A 51-year-old White woman had emigrated to South Africa from Germany in 1939. She had received purgatives and enemas for constipation from an early age. When she was 15 years old she underwent surgery for an anal fissure. She continued taking purgatives, and for the last 20 years had been ingesting about 15 tablets of vegetable laxative, and more recently Alophen, daily. Her symptoms became steadily worse over the years, her constipation lasting for days at a time and often associated with cramps, which was relieved by liquid bowel actions after purgation.

In 1956 an exploratory, but unrevealing, laparotomy was performed for her symptoms and appendicectomy revealed a carcinoid of the appendix. Soon after this she returned from a holiday with diarrhoea, and this was treated as unconfirmed amoebiasis. In 1965 she was extensively investigated at another hospital where, for the first time, it was realised that she was secretly taking large quantities of purgatives. Stool volume was noted to be 3.5-5 litres of liquid, daily, but in retrospect these evaluations were always associated with the massive ingestion of purgatives. In 1969 she underwent a further laparotomy for pain in the right iliac fossa, which was again negative, and she continued to consult physicians in London, New York, and South Africa. She purged herself until admission to Groote Schuur Hospital in November 1971. On interrogation, she consistently denied the presence of blood or mucus in the stools, even during diarrhoeal phases or at the time of the anti-amoebic therapy. The only positive fact was that she had recently taken intermittent furosemide for mild ankle oedema.

On examination, she had mild clubbing of the fingers and slight ankle oedema. There was slight tenderness in the right iliac fossa, but no other feature of note in the abdomen. The vital signs were normal and the rest of the physical examination was non-contributory; in particular, there was no muscle weakness or pigmentation.

Investigations showed a haemoglobin level of 14.4 g/100 ml and a white cell count of 7400/mm^3, with a normal differential count. The erythrocyte sedimentation rate ranged between 37 and 58 mm in the 1st hour. Electrophoresis of the serum proteins demonstrated albumin of 2.9 g/100 ml, and on a subsequent admission in August 1972 this was 4.3 g/100 ml. The electrolytes were normal; serum iron was 88 µg/100 ml with a total iron-binding capacity of 300 µg/100 ml and a saturation of 29%. Serum vitamin B<sub>12</sub> was 501 pg/ml. A Schilling test was normal. Tests of intestinal absorption showed a xylose excretion of 3 g in 5 hours (normal > 5 g), 2.5% of a dose of 1Cr-labelled albumin was excreted in the stools (normal < 1%).

It was not technically possible to collect stools for fat malabsorption studies. Jejunal biopsy was normal. Sigmoidoscopy initially demonstrated a corpuscle of the appendix. Soon after this she returned from a holiday with diarrhoea, and this

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The transverse and descending colons did show some haustration, but they were clearly reduced (Figs 1 and 2). Apparent stricture formation (Fig. 1) was seen to dilate readily on subsequent films (Fig. 2). There was no evidence of mucosal ulceration.

After 6 weeks in hospital, during which time a variety of medicaments was unsuccessfully employed, and after much deliberation, she underwent a colectomy and ileorectal anastomosis. At surgery, the large bowel appeared atonic, but there were no other extrinsic features. The small bowel appeared normal. Apart from mild diarrhoea, the patient has remained well since her ileorectal anastomosis.

Pathology

The operative specimen consisted of 15 cm of terminal ileum and the whole colon from caecum to sigmoid. The normal anatomy of the ileocaecal valve was destroyed, and the colon shortened. The mucosa of the caecum and adjacent ascending colon was distinctly abnormal, being atrophic and congested, with linear ulcers, and it was adherent to the muscle layer (Fig. 3).

Histologically, sections from all parts of the large bowel showed a similar appearance, which was most severe in the caecum and ascending colon. There were small ulcers in the caecum. The lamina propria was prominently infiltrated with eosinophils, a moderate number of plasma cells, and a few polymorphs. A few crypt abscesses were noted. The mucosa was atrophic and the muscularis mucosae was thickened, but the remainder of the bowel wall was normal. Special stains of the myenteric plexus showed it to be normal.

DISCUSSION

Although the clinical history and radiological findings were characteristic of cathartic colon, the histology, independently favoured by 2 histologists, was atypical ulcerative colitis, or at the outside the possibility of eosinophilic colitis.

Constipation may occasionally occur in ulcerative colitis affecting the rectosigmoid region, but this is nearly always associated with rectal bleeding. We are not aware of predominantly right-sided ulcerative colitis causing intractable, bloodless constipation requiring almost lifelong purgation. Eosinophilic gastro-enteritis confined to the colon has not been described in the literature, and it involves all layers of the bowel. It has been described only in patients with abdominal pain and diarrhoea.
Despite the absence of melanosis coli, and degeneration of the myenteric plexus on histology, the massive, prolonged, and often surreptitious intake of purgatives, coupled with the predominantly terminal ileal and right-sided radiological involvement of the colon, appears to support the initial clinical diagnosis of cathartic colon.

The radiological features of cathartic colon have been described by various authors. The largest series comes from the Mayo Clinic and describes 27 cases of varying grades of severity, but only a few illustrate the features. All authors describe similar features, namely dilated terminal ileum, contracted caecum, and ascending colon with loss of haustration. The distribution of the disease is mainly right-sided.

Other striking features are the regions of apparent stricture formation which dilate readily on subsequent films. Ulceration of the bowel mucosa is not a feature. The predominantly right-sided changes, absence of ulceration, and apparent stricture formation, contrast with the changes seen in ulcerative colitis. These features were well demonstrated in the present case.

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REFERENCES

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