Massive oesophagostomiasis of the colon

J. E. JACQUES AND J. B. LYNCH

From the University of Khartoum, Sudan

EDITORIAL SYNOPSIS Findings and treatment are described in a case of massive infestation of the colon with *Oesophagostomum apiostomum*. This is the seventh recorded human case, and the first from the Sudan. Problems of diagnosis are discussed briefly. Awareness of the condition, the real incidence of which is not known, could lead to a diagnosis. It is evident that good results may be obtained by radical surgery, even with massive involvement.

Alimentary helminthiasis is not generally associated with severe intramural bowel lesions. We recently encountered a young man with extensive involvement of the wall of the colon by the worm oesophagostomum. Six human cases have been reported previously, but this was unique in its extent, the patient presenting with acute-on-chronic obstruction.

CASE HISTORY

B. D., a male Dinka aged 20, was admitted to Rumbek Hospital in the province of Bahr-el-Ghazal on 24 August 1960 with a three-day history of absolute constipation, colic, distensions, and vomiting. He had suffered from intermittent colicky abdominal pain for some months. The abdomen was grossly distended without local tenderness; he was dehydrated, and the vomitus was black. He was given intravenous fluids before laparotomy.

The first operation was performed by Dr. A. K. Mendawi using spinal anaesthesia.

Through a right lower paramedian incision distension of small bowel was seen to extend to the ileo-caecal region. The colon was felt to be irregularly nodular throughout as much of its length as could be palpated. An ileostomy in continuity was performed, some 25 cm. from the caecum.

The patient's condition quickly improved and he was first seen by us five weeks later in Rumbek. On examination, a hard fixed mass was readily palpable in the right iliac fossa, extending up to the hepatic flexure, together with more nodules along the course of the colon. He was transferred to Khartoum Hospital for investigation and definitive surgery, where he arrived on 14 October.

Investigations which, in retrospect, were significant included sigmoidoscopy, when gross narrowing was encountered at 15 cm., and barium enema, which showed a small irregular lumen as far as the hepatic flexure; the ascending colon could not be filled. The white cell count was 7,300, with 9% eosinophils. No diagnosis was made.

At the second operation (J. E. J.) under general anaesthesia the previous incision was re-opened, and

the ileostomy detached. The whole colon was found to be the seat of multiple firm nodules which extended, in decreasing numbers, to within a few centimetres of the recto-sigmoid junction. In the caecum they coalesced to form a large irregular mass. There was considerable ileocaecal and paracolic lymphadenopathy. Total colectomy was performed, with excision of the terminal ileum and associated lymph nodes, followed by end-to-end ileo-rectal anastomosis. The patient's post-operative course was uneventful; he was symptom-free 18 months later.

PATHOLOGY

The whole of the large bowel was studded with nodules from $\frac{1}{2}$ to 2 cm. in diameter. The caecum was massively involved; the nodules became progressively fewer distally until the last 4 cm. of the distal colon was free (Figs. 1 and 2). On section, each nodule was seen to be an abscess filled with green pus, and nodules were present in all layers (Fig. 3). Each contained a single worm. The lymph nodes were variably enlarged and soft; some of the larger showed abscess formation.

The worms belonged to the species first described as *Oesophagostomum brumpti*, and later recorded as *Oesophagostomum apiostomum*. The worms, each about 1 cm. long and 0.4 mm. diameter, have been well described elsewhere by Railliet and Henry (1905), by Travassos and Vogelsang (1932), and by Siang and Joe (1953).

DISCUSSION

Oesophagostomiasis is a common and widespread simian disease (Weinberg, 1909). Human infestation has only been found in areas where monkeys abound: in East Africa (Railliet and Henry, 1905; Elmes and Macadam, 1954), Dakar (Chabaud and Larivière, 1958), Brazil (Thomas, 1910), Indonesia (Joe, 1949), and now in the southern Sudan. Both sexes and children have been affected; one patient was a European expatriate in Africa (Elmes and Macadam,

FIG. 1.

FIG. 1. *The whole specimen, showing most extensive involvement in the caecum.*

FIG. 2. *Enlarged view of the transverse and the left colon showing decreasing involvement distally.*

FIG. 3. *A section through the wall of the ascending colon showing abscesses in the layers of the wall, particularly in the submucosa.*

FIG. 2.

FIG. 3.

1954). Infestation may be more common than these few recorded cases would imply; the only survey appears to be that of Johnson (1913), who found an incidence of 4% in the stools of 200 Nigerian prisoners.

The route of infection is probably by ingestion, the larvae invading the wall of the gut. The clinical course may vary considerably; a single abscess may rupture into the peritoneum to produce peritonitis (Elmes and Macadam, 1954). Differential diagnosis in varying presentations would include appendicitis, diverticulitis, Crohn's disease, carcinoma, amoeboma, and tuberculosis. Awareness of the condition could

have led to a diagnosis in the present case, for the findings were not consistent with those expected in any of the above conditions. Treatment in any case is likely to be surgical. Resection probably effects a cure. Macadam's two patients were well one and two years after operation, and the patient described here after 18 months, in spite of his most extensive lesions.

We are indebted to the Director of Medical Services, Sudan, for his permission to publish this case. Dr. R. Seaton, of the Liverpool School of Tropical Medicine, first identified the worm, and Dr. P. Le Roux, of the

London School of Hygiene and Tropical Medicine, described it.

REFERENCES

- Chabaud, A. G., and Larivière, M. (1958). Sur les oesophagostomes parasites de l'homme. *Bull. Soc. Path. exot.*, **51**, 384-393.
- Elmes, B. G. T., and McAdam, I. W. J. (1954). Helminthic abscess, a surgical complication of oesophagostomes and hookworms. *Ann. trop. Med. Parasit.*, **48**, 1-7.
- Joe, L. K. (1949). Helminthiasis of the intestinal wall caused by *Oesophagostomum apiostomum* (Willach, 1891, Railliet and Henry, 1905). *Docum. neerl. indones. Morb. trop.*, **1**, 75-80.
- Johnson, W. B. (1913). Report on entozoal infection amongst prisoners (in the Zungeru gaol, Northern Nigeria). *Trop. Dis. Bull.*, **2**, 190-191.
- Railliet, A., and Henry, A. (1905). Encore un nouveau sclerostomien (*Oesophagostomum Brumpti*—nov. sp.) parasite de l'homme. *C.R. Soc. Biol. (Paris)*, **58**, 643-645.
- Siang, T. K., and Joe, L. K. (1953). Redescription of *Oesophagostomum apiostomum* (Willach, 1891, Railliet and Henry, 1905) from man and monkeys in Indonesia. *Docum. Med. geogr. trop. (Amst.)*, **5**, 123-127.
- Thomas, H. W. (1910). The pathological report of a case of oesophagostomiasis in man. *Ann. trop. Med. Parasit.*, **4**, 57-88.
- Travassos, L., and Vogelsang, E. (1932). Pesquisas helmintológicas realizadas em Hamburgo. X Contribuição ao conhecimento das espécies de *Oesophagostomum* dos Primatas. *Mem. Inst. Osw. Cruz.*, **26**, 251-328.
- Weinberg, M. (1909). Oesophagostomase desanthropoïdes et des singes inférieurs. *Arch. Parasit. (Paris)*, **13**, 161-203.

The December 1963 Issue

THE DECEMBER 1963 ISSUE CONTAINS THE FOLLOWING PAPERS

The course and prognosis of ulcerative colitis s. c.
TRUELOVE and FELICITY C. EDWARDS

Part I *Short-term prognosis*

Part II *Long-term prognosis*

Right-sided colitis E. S. R. HUGHES

The composition of ileostomy fluid T. KANAGHINIS,
M. LUBRAN, and N. F. COGHILL

An antibody precipitating urease and its possible
relation to gastric ulcer F. S. FREISINGER

Haemorrhage from peptic ulcer treated by con-
tinuous intragastric milk drip and early generous
feeding D. W. ASHBY, J. ANDERSON, and M. J. T.
PEASTON

A post-mortem study of gastric and duodenal peptic
lesions I. S. LEVIJ and A. A. DE LA FUENTE
Part I *Frequency and distribution by age and sex*
Part II *Correlations with other pathological con-
ditions*

Peptic-ulcer in south-west Scotland A. LITTON and
W. R. MURDOCH

ABO Blood groups in relation to duodenal ulceration
among the Yorubas of western Nigeria W. W.
DAVEY and E. A. ELEBUTE

A study of some factors affecting the mortality rate in
diffuse peritonitis J. L. DAWSON

The absorption of water, sodium, and potassium in
the large intestine with particular reference to the
effects of villous papillomas H. L. DUTHIE and
J. D. ATWELL

Active 'juvenile' cirrhosis as part of a systemic
disease and the effect of corticosteroid therapy
A. E. READ, SHEILA SHERLOCK, and C. V. HARRISON

Infection of ascitic fluid in patients with hepatic
cirrhosis D. N. S. KERR, D. T. PEARSON, and A. E.
READ

Enteromegaly and cardiomegaly in Chagas disease
FRITZ KÖBERLE

Correlation of manometric, oesophagoscopic, and
radiological findings in the columnar-lined gullet
(Barrett syndrome) B. R. COHEN, B. S. WOLF, M. SOM,
and H. D. JANOWITZ

Easier localization of the Crosby capsule in the
alimentary tract A. G. COX

Gastroenterological Society of Australia
Symposium in Marseilles

Indian Society of Gastroenterology

Index to volume 4

Copies are still available and may be obtained from the PUBLISHING MANAGER,

BRITISH MEDICAL ASSOCIATION, TAVISTOCK SQUARE, W.C.1., price 18s. 6d.