MASSIVE HEMORRHAGE (MELENA) DUE TO LEIOMYOSARCOMA OF THE JEJUNUM

Report of a Case

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This report is submitted because of the rarity of the condition, the fact that the patient presented features of considerable interest from the standpoint of differential diagnosis, and because the lesion is a rare cause for massive hemorrhage from the gastrointestinal tract. A diagnosis of functional indigestion was made at the time of the original examination.

One and a half years later the patient entered the hospital as an emergency case with a blood count of 33 per cent hemoglobin and 2,760,000 red cells. A working diagnosis of peptic ulcer was made because typical hyperacidity symptoms were presented. Three weeks previously detailed roentgen examinations of the entire digestive tract, including studies of the small intestine, had disclosed no abnormality. When the patient did not make a satisfactory response to medical ulcer management, which included five 500 cc. blood transfusions, under our care, Dr. J. C. Root demonstrated abnormality at the site of the lesion by roentgen examination, even though the tumor was extraluminal and caused no obstruction (small diverticulum). He also demonstrated a Meckel's diverticulum, an exceedingly rare roentgenologic finding. The preoperative diagnosis was massive hemorrhage due to "peptic ulcer" in a Meckel's diverticulum.

At operation, performed by Dr. T. E. Jones, no ulceration was found in the Meckel's diverticulum, but an extraluminal mass measuring 6 x 4 x 3 cm. was found in the upper jejunum at the site of the "small diverticulum" previously demonstrated by roentgen examination. Eight centimeters of the jejunum, including the mass, were resected, and an end to end anastomosis was made. The patient had an uneventful convalescence and when seen three months later was well, the blood count normal. However, he had recently had a recurrence of symptoms attributable to "irritable colon", which illustrates the fact that organic disease can be superimposed on functional disturbances. Removal of the former does not correct the latter.

Case Report

First admission; diagnosis "irritable colon". A white man, aged 41, first entered Cleveland Clinic on January 25, 1945, complaining of cramp-like pain across the lower abdomen, chiefly in the left lower abdominal quadrant. Associated with this were marked

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gaseous distress, such as bloating and borborygmi, and constipation during the previous eight years. The distress was worse immediately after meals, intensified by ingestion of raw apples, raw vegetables, and cathartics, and was temporarily relieved by the passage of flatus, a bowel movement, or expulsion of an enema. The patient had used large enemas frequently over the eight-year period. He obviously had a stool complex, had observed large amounts of mucus (he believed the amount passed affected his general health for the time being), but had never observed blood or tarry stools. There had been no loss of weight.

Physical examination revealed a man 5 feet 6½ inches in height and weighing 167 pounds. No abnormality except the palpation of an unusually spastic and rope-like sigmoid colon was evident. The introduction of a barium enema reproduced the typical abdominal distress, but roentgen examination of the colon and terminal ileum revealed no organic abnormality. Laboratory examinations, including blood count, blood sugar, blood Wassermann and Kahn tests, and urine examinations also gave negative results.

The diagnosis of irritable spastic colon, due to the self-use of irritating cathartics and large enemas over a period of eight years, was made. A graded residue diet, principles of bowel management, and antispasmodic medications were advised. The patient lived in Cleveland and was instructed to see us if his progress was not satisfactory. In view of these circumstances it did not seem practical to investigate the entire digestive tract in detail at that time.

Second admission; preoperative diagnosis, massive hemorrhage due to "peptic ulcer" in a Meckel's diverticulum. The patient returned to the Clinic on August 9, 1946. It was apparent that his extreme weakness and pallor was the result of serious organic disease, not a functional disturbance. He was not in shock. There had been a weight loss of 19 pounds since his original admission. The blood pressure was 130 systolic and 90 diastolic in mm. of mercury, and the pulse rate was 88 beats per minute and of good quality. Proctoscopic examination revealed normal findings for a distance of 20 cm., as did roentgen examination of the colon and terminal ileum, using a barium enema. However, during the proctoscopic examination chemical tests of the swabs revealed strongly positive tests for occult blood with the benzidine test.

At this stage of the examination a history obtained from several sources revealed the following: The patient had had a massive hemorrhage (melena) on July 1, 1946, and had been treated in a neighborhood hospital. Large clots of both light and dark blood were observed in the stools. Detailed questioning revealed the fact that the patient had been passing blood by rectum during the previous two months and that he presented symptoms characteristic of peptic ulcer. Both blood transfusion and symptomatic care had given temporary relief, but numerous roentgen examinations had revealed no abnormality. When we received the report of the blood count of 33 per cent hemoglobin and 2,760,000 red cells the patient was immediately hospitalized as an emergency case.

The patient went into shock while attempting to expel an enema and was revived by stimulants and a blood transfusion.

He did not make the usual favorable response to medical peptic ulcer management,[1,2] including five 500 cc. blood transfusions (Meulengracht's method plus the two-hourly use of nonabsorbable antacids) over an eight-day period of time.

Roentgen Examination—Special Technic

By this time several clinicians and roentgenologists had become particularly interested in the problem of this patient. All of the previous x-ray films were obtained and scrutinized closely. Dr. J. C. Root, of the Department of Roentgenology, believed that

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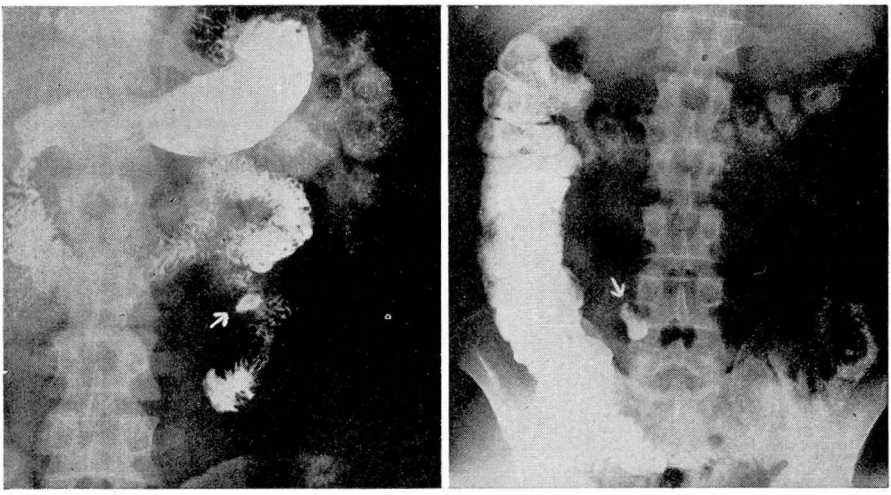
too large a barium sulfate meal had been given in previous roentgen examinations of the small intestine. He therefore gave only two swallows of a barium sulfate mixture of 50 per cent barium sulfate and 50 per cent water and made detailed interval studies of the small intestine. Using this technic he demonstrated a "small diverticulum" of the jejunum, about 6 inches from the ligament of Treitz (site of the sarcoma), and a larger diverticulum in the lower ileum (site of the Meckel's diverticulum). Prior to these examinations he had demonstrated no abnormality in the esophagus, stomach, or duodenum (fig. 1).



a *b*

FIG. 1. (a) Roentgenogram showing ulcerating lesion in upper jejunum. (b) Roentgenogram showing Meckel's diverticulum in distal ileum.

Findings at Operation; Resection of Tumor

On August 23, 1946, an exploratory laparotomy was performed by Dr. T. E. Jones A low midline incision was made extending from the umbilicus to the symphysis. The ileocecal valve was located, and every inch of the small intestine was visualized and palpated. Approximately 3 feet from the ileocecal valve a diverticulum of the ileum measuring 5 cm. in length and 1 cm. in diameter was found. The diverticulum was excised over a curved hemostat placed flush with the bowel wall. Closure of the defect was accomplished with a continuous over and over suture line of catgut applied over the clamp, a second continuous suture line inverting in type, and a third suture line of interrupted catgut sutures. The remainder of the small bowel was then examined. Six inches distal to the ligament of Treitz there was a tumor mass arising from the mesenteric border of the jejunum. This was excised by resecting a segment of jejunum 8 cm. in length. The resection was accomplished between Payr clamps, and a small portion of the mesentery was removed along with the tumor mass. An end to end anastomosis of the open type was effected between the two cut ends of jejunum by two continuous suture lines of catgut inverting in type. The small defect in the mesentery opposite the anastomosis was closed with interrupted catgut sutures. The wound was closed with interrupted figure of eight steel sutures, and skin clips were applied.

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Pathologic Report
by
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Gross Examination: (Fig. 2) Projecting from the mesenteric aspect of segment of jejunum, 8 cm. in length, is an ovoid mass 6 x 4 x 3 cm., firm, white, with glistening surface and attached to the bowel over an area 3.5 cm. in greatest diameter. On the mucosal aspect there is a deep crateriform ulcer, 1.4 cm. in diameter, 2.3 cm. in depth. Section reveals a friable, rather soft, white tissue with homogenous cut surface. The zone of ulceration extends almost to mesenteric fat tissue in one area. Jejunal mucosa is attached to the mass marginal to the zone of ulceration, but the major portion of the tumor projects outside the bowel.

Also received is an open diverticulum, 2 x 2 cm., with brownish red mucosal surface showing a few folds.

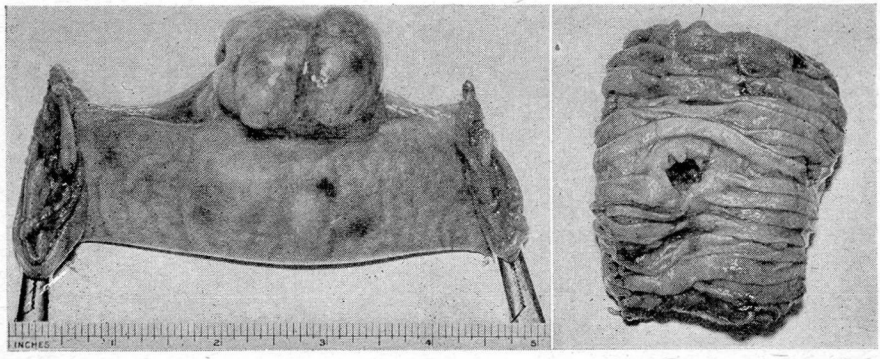

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Fig. 2. (a) Tumor mass projecting from mesenteric aspect of jejunum. (b) Crateriform ulcer of mucosal aspect of neoplasm.

Microscopic Examination: (Fig. 3) The mass is formed principally of spindle shaped cells, arranged in interlacing bundles. In areas the cells are plump and almost polyhedral. Cell cytoplasm is pink-staining and of moderate amount. Nuclei are elongated, oval, or rounded, are moderately vesicular, and occasionally have prominent nucleoli. Occasional tumor giant cells are present. Mitoses are of moderate to frequent number and at times atypical. A rather abundant reticulum is present. Definite myoglia are not evidenced in phosphotungstic acid hematoxylin preparations, but the general configuration is that of a smooth muscle neoplasm.

The diverticulum is lined by a mucosa typical for ileum.

Diagnosis: Leiomyosarcoma, subserous, mesenteric aspect of jejunum, with ulceration and hemorrhage. Meckel's diverticulum.

Comments

In combined surgical and autopsy cases quoted from five sources by Frank, Miller, and Bell[3] there were 38 instances of sarcoma of the small intestine in 117,357 cases, an incidence of 0.03 per cent. Myosarcomas

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and fibroscarcomas occur less frequently than lymphocytomas. Bockus[4] states that because of their rarity, the earlier and milder symptoms of small intestinal tumors are often considered to be of functional origin, and valuable time is lost owing to the failure to institute the necessary diagnostic procedures promptly. The initial complaints of most patients with small bowel tumors are those due to obstruction.

Jones and Brubaker[5] reported 22 patients having tumors of the small intestine who had had operations at Cleveland Clinic. Only 1 instance of leiomyosarcoma was encountered in this group. Recently Jones published his experiences in the *Management of Obscure Gastrointestinal Hemorrhage*[6] which included 4 additional case reports of abnormalities in the small intestine, in 2 of which the significant finding at operation was ulceration in a Meckel's diverticulum. In all 4 cases roentgen examination of the

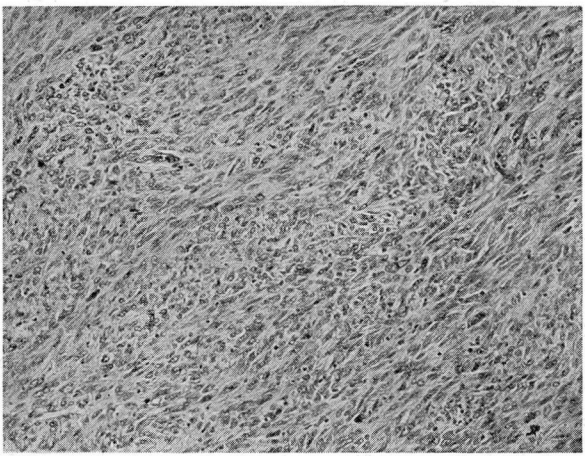

FIG. 3. Interlacing bundles of spindle shaped tumor cells.

gastrointestinal tract had presented normal findings. He emphasized the fact that the small intestine is usually the blind spot in roentgen diagnosis and that although roentgen examination is effective in diagnosis of stomach and colon lesions, it usually has no value in the small intestine except in cases of obstruction.

Several features in the present case report, therefore, deserve emphasis. The patient presented the typical findings for a functional disturbance in the colon when first seen. When last seen three months after the resection of the tumor, he again presented the same findings for the functional disturbance. The first sign of organic disease was massive hemorrhage from the gastrointestinal tract, not obstruction. Even though no obstruction was present and the tumor was extraluminal,

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evidence of ulceration was demonstrated at the site of the tumor by roentgen examination. The rare demonstration of a Meckel's diverticulum was also made by roentgen examination. The surgical approach and technic used in this instance has proved significant in our experience with the management of obscure gastrointestinal hemorrhage at the Clinic.

Summary

A rare instance of massive hemorrhage (melena) due to leiomyosarcoma of the jejunum is presented. By the use of special x-ray technic evidence of ulceration at the site of the tumor was demonstrated, even though the tumor was extraluminal and caused no obstruction. A Meckel's diverticulum was also demonstrated in the same patient by roentgen examination.

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