Infarction of the Left Hemicolon Due to Primary Vascular Occlusion*

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Infarction of the left hemicolon due to primary vascular occlusion is rare and, unlike mesenteric infarction due to mechanical factors such as volvulus or external hernia, may not be recognized early. Diagnosis may not be difficult, however, if the manifestations of this entity are kept in mind. Treatment, to be successful, must be initiated early. It is the purpose of this paper to report our experience with infarction of the left hemicolon due to primary vascular occlusion.

Clinical Material

Records of all patients with intestinal infarction admitted to the Tulane Service at Charity Hospital of Louisiana in New Orleans from January 1, 1951 through December 31, 1966 were reviewed. Patients without postmortem confirmation or adequate surgical exploration to determine the cause of infarction were omitted from the series.

Seventy-eight patients had infarction of the intestine due primarily to vascular occlusion. Forty patients had acute occlusion of the superior mesenteric artery, and only four had acute occlusion of the inferior mesenteric artery; the other 34 had occlusion of terminal mesenteric arteries.

Eighteen of the 78 patients had infarction of the left hemicolon. Nine of these had acute occlusion of terminal mesenteric arteries, five had acute occlusion of the superior mesenteric artery, and four had acute occlusion of the inferior mesenteric artery. Intestinal infarction was confined to the left side of the colon only in the four patients with occlusion of the inferior mesenteric artery. Among these four cases the clinical diagnoses were correct in three. Brief reports of these four cases follow.

Case Reports

Case 1: A 64-year-old man had resection of an abdominal aortic aneurysm. Four days later he had pain in the lower part of the abdomen. On the sixth day a diagnosis of gangrene of the sigmoid colon was established by proctoscopy. Left hemicolectomy was done as an emergency procedure, but the patient died of sepsis.

Case 2: A 66-year-old man who had acute thrombosis of the distal aorta and iliac arteries with occlusion of the inferior mesenteric artery died...
Acute of Chronic occlusion of Griffith's point Infarction of colon

Fro. 1. Occlusion or absence of anastomosis between the middle colic artery and the left colic artery at the splenic flexure may predispose to infarction of the left hemicolon in the presence of acute occlusion of the inferior mesenteric artery.

during performance of aortic and iliac thrombectomy. The sigmoid colon and rectum were gangrenous.

Case 3: A 46-year-old man had an arterial prosthesis inserted from the right common iliac artery to the common femoral artery because of occlusion of the external iliac artery. Two days later, abdominal pain and distention increased and fever appeared. Tachycardia and hypotension followed and the patient died on the fourth day. The diagnosis of colonic infarction had not been suspected. Necropsy showed gangrene of the descending and sigmoid colon and recent thrombosis of the inferior mesenteric artery near its origin. In addition, a duodenal ulcer was perforated.

Case 4: A 66-year-old man had had abdominal cramps and pain in the left lower quadrant for a week. Twenty-four hours before admission, the pain worsened and he began vomiting and having loose bloody bowel movements. On admission, the patient had no fever, pulse rate was 84 per minute, and blood pressure was 200/90 mm Hg. He had moderate abdominal distention and tenderness in the left lower quadrant of the abdomen. Guaiac tests of the stool showed + and hematocrit was 48 per cent. The initial diagnosis was acute diverticulitis. Barium enema showed spasm of the left colon and no diverticula. Sigmoidoscopy showed hemorrhagic, ulcerated mucosa with multiple gangrenous areas 9 to 25 cm from the anus. A diagnosis of primary vascular occlusion with infarction of the left colon was made.

At operation, the gangrenous portion of the left hemicolon, from the splenic flexure to within 9 cm of the anus, was resected, and left transverse colostomy was done. The rectal stump was closed. The inferior mesenteric artery was acutely thrombosed, and the superior mesenteric artery was patent. The hypogastric vessels were not inspected. A year later, colo-proctostomy was done, and the patient has been well since.

Discussion

Isolated infarction of the left hemicolon due to primary vascular occlusion is rare. Because of collateral circulation to the left hemicolon through the marginal artery of Drummond and through the lower hemorrhoidal arteries, gradual occlusion of the inferior mesenteric artery usually is well tolerated. Sudden occlusion of the inferior mesenteric artery from thrombosis, embolus, or ligation can lead to infarction if collateral arteries are occluded or congenitally absent (Fig. 1).