

# Ischemic Colitis With Colo-Cutaneous Fistula And Stenosis

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## Abstract

We report one case of colo-cutaneous fistula and segmental colon stenosis with complete obliteration of the lumen occurred 12 days and 2 months, respectively, after anterior resection with temporary ileostomy for rectal cancer. Both fistula and stenosis occurred in the region of the splenic flexure, suggesting that ischemic colitis was the cause.

## INTRODUCTION

Ischemic colitis is a relatively rare event. Major vascular occlusion of mesenteric arteries is the main local condition responsible for colonic ischemia. Inferior mesenteric artery ligation during colectomy is a common etiologic factor. Ischemic colitis complicated colon surgery in 4.5% of cases in a series of Guivarc'h et al [1].

We report a case of colonic ischemia with colo-cutaneous fistula and stenosis after anterior resection for rectal cancer.

## CASE REPORT

A 75-year-old patient underwent anterior resection with temporary ileostomy for rectal adenocarcinoma (pT2-pN0-G2), located 10 cm above the anal verge. A fistulous orifice with mucous discharge in the mesogastric portion of the surgical wound appeared 12 days after surgery.

Fistulography showed a sinus communication with the transverse colon (Fig. 1); the remaining colon, evidenced with hydrosoluble medium injection through the ileostomy, was normal. Colonoscopy, performed 20 days after surgery, showed the presence of diffuse hyperemia and ulcerations of the mucosa, beginning 20 cm above the anal verge and extending 30 cm proximally. Histological examination of the biopsies evidenced non-specific inflammation of the mucosa with moderate cell infiltrate in the lamina propria. Total parenteral nutrition was started through central venous access and the patient was discharged 22 days after surgery.

Due to the persistence of the fistula, after 2 months the patient was submitted to contrast enema both through the ileostomy and transanally. It showed a complete stop of the

progression of the contrast medium in the transverse tract of the colon (Fig. 2). Transanal colonoscopy showed a complete obliteration of the lumen of the colon 30 cm above the anal verge; the recto-colic anastomosis was located 8 cm above the anal verge and the mucosa was hyperemic with superficial erosions. The histological examination of the mucosal biopsies evidenced the presence of chronic phlogosis with focal cryptitis. Colonoscopy, performed through the ileostomy, was stopped after 40 cm, due to the complete obliteration of the lumen; at the same level a fistulous orifice was present. The mucosa of the entire tract was hyperemic and chronic aspecific phlogosis resulted from histological examination of biopsies. CT of the thorax and abdomen showed no signs of metastatic diffusion of the resected adenocarcinoma.

The patient was submitted to laparotomy. After viscerolysis, a 5 cm long colo-cutaneous fistula was isolated; a 15 cm long stenosis with complete obliteration of the lumen of the colon was present just distally from the colon orifice of the fistula. En-bloc resection of the fistula and the stenotic colon was performed; the intestinal continuity was established with manual colo-colic latero-terminal anastomosis. Chronic granulomatous phlogosis was present at histological examination.

Postoperative course was uneventful and the patient was discharged 16 days after operation.

**Figure 1**

Figure 1: Fistulography shows the fistulous tract (white arrow) with opacification of the colon at the level of the transverse tract.



**Figure 2**

Figure 2: Barium enema shows complete arrest of the progression of the contrast medium at the level of the transverse tract.



## DISCUSSION

Ischemic colitis may be clinically subdivided into two forms: a nongangrenous type and a gangrenous type. The nongangrenous type occurs in 80-85% of cases and the gangrenous form encompasses the remaining 15-20% of patients [2]. The nongangrenous form may be transient with involvement of mucosa and submucosa, which may be characterized by edema, submucosal hemorrhage and possible partial mucosal necrosis [3]. Complete functional and structural recovery generally occurs within one or two weeks. When ischemia is more severe, it may involve the muscularis propriae, which is replaced by fibrous tissue with consequent and frequent evolution into colonic stenosis [3,4]. The gangrenous ischemic colitis causes a transmural necrosis, which may lead to perforation and sepsis. Ischemic colitis is often segmental with involvement of particular weak points, known as watershed areas, in the colonic blood supply: the splenic flexure (Griffiths' point), the recto-sigmoid junction (Sudeck's point), and the ileocecal region [5].

Griffiths' point is defined as the site of (a) communication of the ascending left colic artery with the marginal artery of Drummond, and (b) anastomotic bridging between the left branch of the middle colic artery with left terminal branches of the ascending left colic artery at the splenic flexure of the

colon. It is at this critical point at the splenic flexure that collateral circulation between the superior mesenteric artery and the marginal artery branch of the inferior mesenteric artery, supplying the descending colon, is dependent. Analysis of the arteriographic studies shows that anastomosis at Griffiths' point is present in 48%, poor or tenuous in 9%, and absent in 43% [6]. Ischemic colitis occurred in 15.4% of cases in the splenic flexure according to Guttormson and Bubrick [7].

Ischemia is one of the possible underlying causes of gastrointestinal fistulas [8]. In our case report a colo-cutaneous fistula was detected 12 days after colon resection for carcinoma. The fistulography showed its origin from the distal part of the transverse colon, in the proximity of Griffiths' point. Segmental erythema with ulcerations was detected at endoscopy. It was described as one of the endoscopic patterns of ischemic colitis [9, 10]. Two months after colon resection a stenosis was detected just distally from the fistula orifice in the same critical area. Histological examination of the resected specimen showed the presence of chronic granulomatous phlogosis, which was described as one possible solitary evidence of prior ischemic injury [9]. It is reasonable to suppose that ischemic colitis was both responsible for fistula and stenosis formation.

Ischemic colitis is often underdiagnosed. Symptoms and signs are often not specific. Colonoscopy is the most sensitive diagnostic study and it should be performed in patients with suspected colon ischemia, who have no signs of peritonitis [10]. Prompt recognition by colonoscopy and

consequent clinical and endoscopic evaluation to assess progression or regression of the ischemic process warrant expeditious surgery, when full-thickness necrosis is discovered, or medical treatment, if the nongangrenous form is present. In the chronic phase of the illness local steroids enemas may be of some benefit [2]. When symptomatic stricture arises, surgery is mandatory [9].

In conclusion, fistula occurring in the watershed areas of the colon after colectomy may be related to ischemic colitis and should suggest prompt colonoscopy to confirm diagnosis and accurate follow-up to assess the evolution of the disease.

### References

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