



**FIGURE 345-46** Virtual colonoscopy image of a colon polyp (arrow). (Image courtesy of Dr. Jeff Fidler; with permission.)

a virtual “flight” along the colonic lumen, simulating colonoscopy (Fig. 345-46). Comparative studies of virtual and routine colonoscopy have shown conflicting results, but technical refinements have improved the performance characteristics of VC. The use of VC for colorectal cancer screening may become more widespread in the future, particularly at institutions with demonstrated skill with this technique. Findings detected during virtual colonoscopy often require subsequent conventional colonoscopy for confirmation and treatment.

#### DIARRHEA

Most cases of diarrhea are acute, self-limited, and due to infections or medication. Chronic diarrhea (lasting >6 weeks) is more often due to a primary inflammatory, malabsorptive, or motility disorder; is less likely to resolve spontaneously; and generally requires diagnostic evaluation. Patients with chronic diarrhea or severe, unexplained acute diarrhea often undergo endoscopy if stool tests for pathogens are unrevealing. The choice of endoscopic testing depends on the clinical setting.

Patients with colonic symptoms and findings such as bloody diarrhea, tenesmus, fever, or leukocytes in stool generally undergo sigmoidoscopy or colonoscopy to assess for colitis (Fig. 345-4). Sigmoidoscopy is an appropriate initial test in most patients. Conversely, patients with symptoms and findings suggesting small-bowel disease, such as large-volume watery stools, substantial weight loss, and malabsorption of iron, calcium, or fat, may undergo upper endoscopy with duodenal aspirates for assessment of bacterial overgrowth and biopsies for assessment of mucosal diseases, such as celiac sprue.

Many patients with chronic diarrhea do not fit either of these patterns. In the setting of a long-standing history of alternating constipation and diarrhea dating to early adulthood, without findings such as blood in the stool or anemia, a diagnosis of irritable bowel syndrome may be made without direct visualization of the bowel. Steatorrhea and upper abdominal pain may prompt evaluation of the pancreas rather than the gut. Patients whose chronic diarrhea is not easily categorized often undergo initial colonoscopy to examine the entire colon and terminal ileum for inflammatory or neoplastic disease (Fig. 345-47).

#### MINOR HEMATOCHEZIA

Bright red blood passed with or on formed brown stool usually has a rectal, anal, or distal sigmoid source (Fig. 345-48). Patients with even trivial amounts of hematochezia should be investigated with flexible sigmoidoscopy and anoscopy to exclude polyps or cancers in the distal colon. Patients reporting red blood on the toilet tissue only, without blood in the toilet or on the stool, are generally bleeding from a lesion



**FIGURE 345-47** Ulcerated ileal carcinoid tumor.

in the anal canal. Careful external inspection, digital examination, and proctoscopy with anoscopy are sufficient for diagnosis in most cases.

#### PANCREATITIS

About 20% of patients with pancreatitis have no identified cause after routine clinical investigation (including a review of medication and alcohol use, measurement of serum triglyceride and calcium levels, abdominal ultrasonography, and CT). Endoscopic assessment leads to a specific diagnosis in the majority of such patients, often altering clinical management. Endoscopic investigation is particularly appropriate if the patient has had more than one episode of pancreatitis.

Microolithiasis, or the presence of microscopic crystals in bile, is a leading cause of previously unexplained acute pancreatitis and is sometimes seen during abdominal ultrasonography as layering sludge or flecks of floating, echogenic material in the gallbladder. Gallbladder bile can be obtained for microscopic analysis by administering a cholecystokinin analogue during endoscopy, causing contraction of the gallbladder. Bile is suctioned from the duodenum as it drains from the papilla, and the darkest fraction is examined for cholesterol crystals or bilirubinate granules. The combination of EUS of the gallbladder and bile microscopy is probably the most sensitive means of diagnosing microolithiasis.



**FIGURE 345-48** Internal hemorrhoids with bleeding (arrow) as seen on a retroflexed view of the rectum.