CASE PRESENTATION

Mr. R. is a 70-year-old Caucasian gentleman who was referred to the Central Arkansas Veterans Health Care System for a screening colonoscopy. His medical history included a new diagnosis of prostate cancer. Prostate biopsy was performed six weeks before his colonoscopy and was complicated by prostatitis, treated with two weeks of antibiotics. General surgery had also seen the patient approximately four months prior to the colonoscopy for evaluation of suspected rectal prolapse. Prior to insertion of the colonoscope, a rectal exam was performed. This revealed evidence of partial rectal prolapse with...
approximately two centimeters of rectal mucosa extending beyond the anal sphincter, along with external hemorrhoids. The colonoscopy was performed to the cecum without incident. The entire colonic mucosa appeared normal without evidence of diverticulosis, stricture, or polyps. Upon retroflexing in the rectum with minimal pressure, the small bowel was visualized, confirming a perforation of the colon. The perforation was suspected to be at the recto-sigmoid junction after noting blood approximately 15 cm from the anus. No obvious mucosal tear was identified upon further inspection. Air was suctioned from the colon and the scope was removed. The patient did not complain of any pain and had no abdominal distention, guarding, or rebound tenderness on examination. Upright abdominal film was obtained and showed a small amount of free air under the diaphragm. Surgery evaluated the patient, and he was started on antibiotics (piperacillin / tazobactam) immediately. The patient was then taken urgently to the operating room and underwent rigid sigmoidoscopy under anesthesia. This did not reveal the perforation so an open laparotomy through a small 4–5 cm incision below the umbilicus was performed. A mucosal tear was identified and the patient underwent primary repair of 1–2 cm colon perforation just above the peritoneal reflexion. He was discharged from the hospital two days later with no further complications.

DISCUSSION

Rectal prolapse, or procidentia, is a condition mainly affecting the elderly and multiparous women. This can involve only rectal mucosa or the full thickness of not only the rectum, but also the sigmoid colon. Common mechanisms of rectal prolapse include chronic constipation with increased abdominal pressure, intussusception due to the traction effect of colonic tumors, redundancy of the sigmoid colon, or reduced support of the rectum due to laxity of pelvic floor musculature. Rectal prolapse can also be seen in combination with uterine and bladder prolapse, which is related with pelvic floor muscle relaxation, specifically with laxity of the levator muscles (1).

Colonic perforation with colonoscopy and flexible sigmoidoscopy has been described in the literature since the beginning of these procedures. To the endoscopist this is the most feared complication of these procedures. Perforation rates vary depending on the study and the setting in which the studies were performed, that is academic centers versus practice settings as well as hospital verses outpatient settings. Colonic perforation rates have commonly been reported to be 0.01% to 0.3%, however, reports as high as 2% have been published (2–12). These data come from both prospective studies and physician surveys. Korman, et al published a paper in 2003 in which three gastrointerololgists reviewed questionnaires, hospital data, and endoscopy reports to isolate common areas where perforations occur during colonoscopy. The most common site of perforation reported in this study was the sigmoid colon (62%) followed by ascending colon; cecum (16%), transverse colon; splenic flexure (11%) and rectum; descending colon; unidentified location (11%). Unfortunately this paper did not separate out the individual locations, grouping them together. Also, they did not specifically comment on how many perforations occurred in the rectum. The overall perforation rate in this study was 0.03%. In this study there were several factors which appeared to increase the patient’s risk for perforation including advanced age, prior surgery, diverticular disease, use of thermal energy, and female sex. In regards to advanced age, their data showed the majority of reported perforations occurred in patients over the age of 60. Specifically age 70 years and up had 22% of the reported perforations (13).

Retroflexion has been well described as an essential part of the endoscopic examination of the colon. Routine retroflexion in the rectum has been supported dating back to a Grobe, et al report in 1982 where their group showed an 8% increased yield of polyp diagnosis using retroflexion in the rectum in a group of 75 patients (14). This was again supported by Hanson, et al in 2001 where they examined 526 patients with flexible sigmoidoscopy and no retroflexion verses 480 patients whose endoscopic examination included retroflexion. Twelve patients were noted to have polyps identified only on retroflexion, not visible to direct withdrawal or palpable on rectal examination.

(continued on page 43)
There also was no record of perforation experienced in this series while retroflexing. This was one of the concerns reported by the endoscopist in this study as a reason for excluding retroflexion as part of the routine flexible sigmoidoscopy examination (15).

Our review of the literature revealed that there have been no reported cases of colonic perforation occurring with retroflexion in the rectum. This is likely due to this segment’s retroperitoneal location, giving added strength to the rectal wall. This, along with the more proximal sigmoid colon, could be weakened and compromised due to the presence of rectal prolapse. There have been reports of spontaneous perforations in patients with rectal prolapse. Jeong, et al reported a case of an 81-year-old female with rectal and uterine prolapse who had spontaneous rupture of the recto-sigmoid colon with evisceration of the small bowel through the anus (16). Shalfiross, et al reported another case of spontaneous rupture of the sigmoid colon occurring in a patient with uterine prolapse, absent any evidence of rectal prolapse (17). Regardless of the etiology leading to a decrease in the integrity of the recto-sigmoid colon wall, this raises a potential concern as to whether retroflexion of the endoscope should be undertaken in these individuals. It is our opinion that retroflexing in the rectum in patients with rectal prolapse, and possibly uterine prolapse, needs to be undertaken with caution. We also stress the importance of a detailed perianal and digital rectal exam prior to colonoscopy. We are not suggesting that colonoscopy should not be performed in patients with rectal prolapse. The benefit of colorectal cancer screening clearly outweighs the risk of perforation in this population. We do opine, however, that retroflexion in patients with rectal prolapse needs to be undertaken with particular care.

References