



Anastomotic Occlusive Web: A Novel Endoscopic Management Technique

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Clinical Image

A 46-year-old female diagnosed with invasive adenocarcinoma with moderate differentiation underwent a laparoscopic low anterior resection with diverting loop ileostomy. Surgical pathology confirmed a moderately differentiated 4.5cm adenocarcinoma, 0/14 lymph nodes positive, and negative distal proximal and circumferential margins. The patient was discharged on post-operative day three, after uneventful recovery.

Two months after her original procedure, she underwent a gastrografin enema to evaluate patency of rectosigmoid anastomosis. The anastomosis appeared intact. No contrast, however, was identified retrograde into the sigmoid colon or descending colon. Contrast was then infused into the distal limb of the loop ileostomy. Transit time from the ileostomy to the presumed anastomosis was four hours and the radiologist at the time felt the anastomosis was patent, without evidence of leak.

The ileostomy was reversed. The patient did not have return of bowel function. She developed obstructive symptoms after post-operative day five, and a flexible sigmoidoscopy was performed, which showed a non-patent anastomosis with possible web development at the anastomotic site.

Dilation was performed as follows: under conscious sedation, the rectum was examined with a diagnostic gastroscope. At 6 cm from the dentate line, a pale area was seen, consistent with scarred anastomosis or web, and no lumen was evident. It was impossible to advance a long ERCP 0.035 inch wire through the stricture. Linear EUS was used to visualize the colon loop above the anastomosis, which was filled with air and liquid. Using a 19 GA FNA needle, the colon loop was punctured from the rectum, under direct EUS and fluoroscopic visualization (Figure 1 and 2). Contrast was injected through the needle to confirm intraluminal location of the needle. A wire was inserted through the needle and coiled in the colon. A 5-8 Fr Soehendra catheter was used to dilate the track. A linear echoendoscope was exchanged for the gastroscope, while keeping the wire in place. A wire guided CRE balloon was then advanced, and the anastomosis was dilated serially up to 12 mm under fluoroscopic and endoscopic guidance. After dilation, the colon was inspected to approximately the level of the proximal transverse colon and liquid stool was suctioned. The anastomosis was then reexamined, and once deemed safe, was dilated to 18 mm. The patient tolerated the procedure well, had a rapid return of bowel function, and was discharged three days later. She has had no recurrence of obstructive symptoms in the past eight months.

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Figure 1: Using a 19 GA FNA needle, the colon loop was punctured from the rectum, under direct EUS.



Figure 2: Using a 19 GA FNA needle, the colon loop was punctured from the rectum, under fluoroscopic visualization.

Anastomotic webs are rarely seen after colorectal anastomoses. The web was likely missed during gastrografin enema because contrast was injected into the distal limb of the ileostomy and Hartmann's pouch. The contrast then eventually met and a thin web separating the two contrast loads was not appreciated. It has been thought that a diverting ileostomy increases the risk of web formation because there is lack of the usual flow of bowel contents to keep the lumen

open. This report highlights an alternative endoscopic approach, using linear EUS and fluoroscopic visualization to diagnose and treat an occlusive web that is safe and effective [1]. EUS allows for safe perforation of the web and subsequent dilation, as we are able to visualize the proximal colon loop endosonographically and under fluoroscopy, making it less likely to injure surrounding organs. Other cases describe managing low occlusive webs with digital dilation and higher webs with endoscopic balloon dilation. It needs to be emphasized that these procedures should be performed by highly experienced endoscopists [2].

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