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CASE REPORT

Colon stenting in benign diverticular stricture – a case report and review of literature

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ABSTRACT

Background: Colonic stricture is a feared complication with varied etiology ranging from malignant obstruction to benign diseases. One such condition is recurrent diverticulitis-related strictures.

Objectives & Methods: We report a case of a 48-year-old male patient with stricture of the sigmoid colon. The patient refused Sigmoid colon resection. He underwent stent placement and Two weeks later presented with constipation and abdominal discomfort. On Computed Tomography (CT) we discovered stent migration and consequent large bowel obstruction. Patient agreed on undergoing sigmoidectomy with a colostomy.

Conclusion: Indication of SEMS for benign lesions remains unclear. Based on the current data, in benign colorectal obstructive lesions, SEMS is a viable option as a bridge to surgery when no other alternative option is available. However, the ASCRS 2020 guidelines did not point to SEMS as an option given the high rate of complications. Our patient was treated with a stent because he refused the resection surgery and found relief for a certain period before developing stent migration. Hence, the patients should be educated about the short and long-term potential effects of stenting before performing the procedure in benign strictures.

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1. Introduction

Some of the reported complications after acute diverticulitis include abscess, fistula, stricture, perforation, and peritonitis. The recurrence rate of diverticulitis is 10% to 35% after the first episode [1], and the risk of complications is higher with each recurrence [2]. Most reported cases of colonic strictures are malignancy-related, but almost 50% of cases are associated with benign diseases [2]. Complicated diverticulitis with stricture formation requires elective surgical resection and 30% end up with permanent colostomy [1]. The case report's objective is to elucidate the use of colonic stenting in strictures acting as a bridge to surgery in patients with acute mechanical obstruction by providing preoperative decompression. We also highlight stenting complications, including bowel perforation, stent migration, and re-obstruction [3].

2. Case report

A 48-year-old male patient with a history of generalized anxiety disorder, obesity, obstructive sleep apnea, diabetes mellitus, essential hypertension, and recurrent sigmoid diverticulitis complicated by colonic stricture was initially admitted for intestinal obstruction from sigmoid colon stenosis. The surgery team evaluated the patient, and they recommended sigmoid resection; however, the patient refused because of concerns about living with a colostomy. Because of patient refusal, the gastroenterology team performed colonoscopy with fluoroscopy and placed a stent in the sigmoid colon. Biopsy results post colonoscopy showed no malignant cells. The patient was instructed to follow for sigmoid resection, but the patient deferred this plan. The patient was discharged two weeks later and advised to consume a high fiber diet and take polyethylene glycol as needed. Post discharge, he reported increasing abdominal discomfort and constipation with the last bowel movement six days before the reevaluation. Physical exam revealed normal vital signs, a soft distended abdomen, hypoactive bowel sounds, and left lower quadrant tenderness on palpation with no guarding or rigidity. CT with contrast of the abdomen and pelvis showed abundant stool in the ascending colon through the proximal sigmoid colon. Transition to the non-distended sigmoid colon at the proximal stent level was suggestive of migrated and occluded stent (Figure 1). Laboratory results were within the normal limit except for low potassium (2.7 mEq/L), and there was no leukocytosis. The gastroenterology and surgery team evaluated the patient and deemed him unfit for stent retrieval from the strictured

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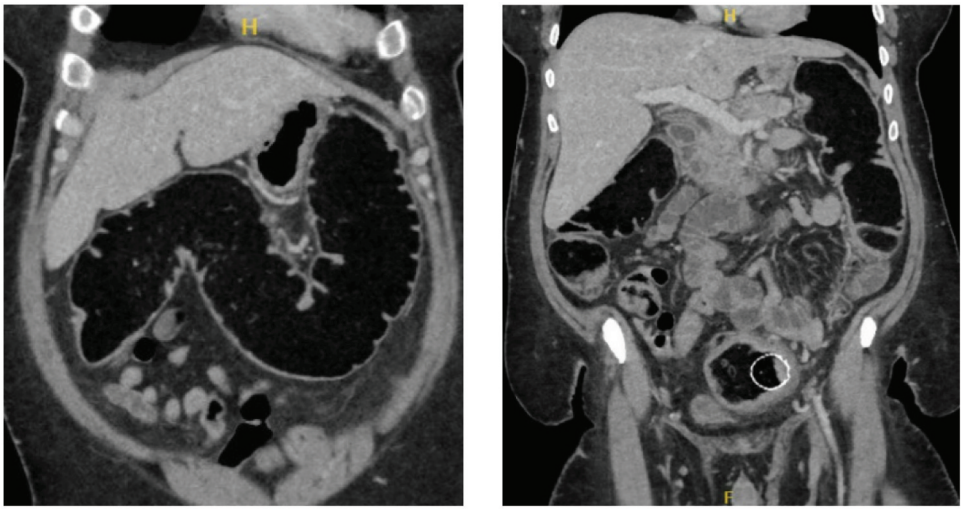

Figure 1. Large intestinal obstruction and nondistended sigmoid colon at the level of the proximal stent suggestive of occluded stent.

sigmoid colon because of the high risk of perforation. The patient eventually agreed to undergo sigmoidoscopy with colostomy placement due to the lack of other effective options.

3. Discussion

Recurrent attacks of acute diverticulitis or persistent inflammation may result in progressive fibrosis and scarring, resulting in a stricture formation. Patients with a colonic stricture may present with an acute colonic obstruction without diverticulitis or with more insidious symptoms of abdominal pain and constipation.

The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines recommend elective surgery for patients with one prior episode of complicated diverticulitis (including strictures) [4]. Some studies showed an increased risk of mortality from a recurrent attack or a higher risk of developing complications. Hence, patients would benefit from an early elective surgery [4].

Since the development of uncovered self-expanding metal stents (SEMS) in the 1990s, endoscopic stents have evolved dramatically. Enteral stenting is used as a non-surgical alternative commonly used to treat obstruction in different areas (stomach, proximal small bowel, and colon) of the gastrointestinal tract [5]. The primary indication for the colonic stent is palliation of surgically incurable colorectal cancer. Secondarily, stenting is used as a bridge to surgery in emergent conditions to optimize the medical status and also for preoperative staging. Its shape allows it to pass through a colonoscope [5].

The role of enteral stents for benign colonic lesions is not clear. Literature focused primarily on stent placement for malignant lesions. In a case series involving ten patients, SEMS were inserted in patients with diverticulitis with complicated pelvic abscess (two cases), colonic fistula (four cases), and post-surgical anastomotic stricture (four cases) [6]. The complicated abscess was resolved, but fistulae developed in both cases. Among the patients with colonic fistulae, two were resolved after SEMS placement, and obstruction symptoms were relieved in all post-surgical anastomotic stricture cases [6].

In another case series that included 23 patients with benign lesions treated with SEMS placement, the clinical success rate was 95%. The results demonstrated that SEMS could effectively decompress benign colonic obstructions but is associated with a high percentage of complications [7].

The most significant experience with stenting has been for the treatment of colonic obstruction from left-sided lesions. A systematic review focusing on 88 studies that included 1785 patients with metallic stents found that clinical success was achieved in 92% [8]. Our patient has encountered relief of symptoms following stent placement. While our patient presented with stent migration with large intestinal obstruction two weeks after, the above study revealed a median duration of patency of 106 days [8].

The most common adverse events following stent placement are stent migration (12%), recurrent obstruction (7%), and perforation (4%) [9]. Stent migration is usually detected within one week of insertion but can occur later. The main reason for stent migration is the narrow diameter of the stent or shorter length compared to the obstructive lesion [10]. Stent occlusion in malignant lesions occurs mainly due to tumor ingrowth through the stent or overgrowth at the stent's end. While in benign lesions, occlusion is due to stool impaction and stricture progression [11].

Disclosure statement

No potential conflict of interest was reported by the author(s).

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References

[1] Young-Fadok TM. Diverticulitis. N Engl J Med. 2018 Oct 25;379(17):1635–1642. Erratum in: N Engl J Med. 2019 Jan 31;380(5):502.PMID: 30354951.

[2] Lo SK. Metallic stenting for colorectal obstruction. GastrointestEndosc Clin N Am. 1999 Jul;9(3):459–477. PMID: 10388861.

[3] Cirocchi R, Farinella E, Trastulli S, et al. Safety and efficacy of endoscopic colonic stenting as a bridge to surgery in the management of intestinal obstruction due to left colon and rectal cancer: a systematic review and meta-analysis. Surg Oncol. 2013 Mar;22(1):14–21. Epub 2012 Nov 24. PMID: 23183301.

[4] Hall J, Hardiman K, Lee S, et al. Prepared on behalf of the Clinical Practice Guidelines Committee of the American Society of Colon and Rectal Surgeons. The American society of colon and rectal surgeons clinical practice guidelines for the treatment of left-sided colonic diverticulitis. Dis Colon Rectum. 2020 Jun;63(6):728–747. PMID: 32384404.

[5] Baron TH, Dean PA, Yates MR 3rd, et al. Expandable metal stents for the treatment of colonic obstruction: techniques and outcomes. GastrointestEndosc. 1998 Mar;47(3):277–286. PMID: 9540883.

[6] Paúl L, Pinto I, Gómez H, et al. Metallic stents in the treatment of benign diseases of the colon: preliminary experience in 10 cases. Radiology. 2002 Jun;223(3):715–722. PMID: 12034940.

[7] Small AJ, Young-Fadok TM, Baron TH. Expandable metal stent placement for benign colorectal obstruction: outcomes for 23 cases. Surg Endosc. 2008 Feb;22(2):454–462. PMID: 17704890.

[8] Watt AM, Faragher IG, Griffin TT, et al. Self-expanding metallic stents for relieving malignant colorectal obstruction: a systematic review. Ann Surg. 2007 Jul;246(1):24–30. PMID: 17592286; PMCID: PMC1899207.

[9] Sebastian S, Johnston S, Geoghegan T, et al. Pooled analysis of the efficacy and safety of self-expanding metal stenting in malignant colorectal obstruction. Am J Gastroenterol. 2004 Oct;99(10):2051–2057. PMID: 15447772.

[10] Mauro MA, Koehler RE, Baron TH. Advances in gastrointestinal intervention: the treatment of gastroduodenal and colorectal obstructions with metallic stents. Radiology. 2000 Jun;215(3):659–669. PMID: 10831681.

[11] Kim EJ, Kim YJ. Stents for colorectal obstruction: past, present, and future. World J Gastroenterol. 2016;22(2):842–852.