Management of Refractory Benign Colorectal Strictures

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Introduction

Benign stricture is a not uncommon clinical situation after low anterior resection or endoscopic submucosal dissection (ESD). Anastomotic strictures after surgery, occurring 5-20% after low anterior resection, could be a serious condition that may require endoscopic or surgical treatment. Despite this serious condition, most strictures could be managed successfully with several treatment modalities, such as direct digital dilation, transanal surgical treatment, endoscopic balloon dilation and stent insertion. However, other varieties of endoscopic or surgical techniques are required in refractory strictures, especially after failure of first endoscopic management. There is few data about the refractory cases in colorectal benign strictures and this will be discussed.

Endoscopic management of benign colorectal strictures

1. Balloon dilation

Endoscopic balloon dilation has been used as a first treatment modality in treating benign colorectal strictures. However, the success rate of this procedures has variable results.\(^1,2\) Despite its simplicity and immediate efficacy in up to 80% of cases, this technique requires several treatment sessions and is associated with a significant rate of recurrent benign stenosis. Predictors of a successful outcome include: a relatively narrow stenosis (<10 mm), a short segment stricture (<4cm), and anastomotic strictures. Poor predictors include: numerous strictures, complete obstruction, associated fistulas within the stricture, active inflammation around the stricture, recent surgery, a tight angulation, and malignancy.\(^3\)

Usually, Balloons exert a radial vector force against the strictured tissue, and these often require sequential dilation using larger balloon over two to three endoscopic sessions to achieve long-term success. However, this may not be determined until the results of the first dilation are known. Immediate symptomatic relief has been reported in 77% of patients and long-term relief in 44% of patients.\(^4\)

2. Self-expandable metal stent (SEMS)

Placement of a SEMS is a safe and effective endoscopic procedure in relieving benign colorectal strictures.\(^5\) Unlike uncovered stent, fully covered SEMS has several advantages in management of benign strictures. Theses
fully covered SEMS has limited local tissue reaction, thus used in benign conditions such as colonic strictures, fistulas, perforation, and leaks in digestive tract.\(^6\,^7\)

Benign colorectal strictures can develop after diverticulitis, ischemic colitis, radiation colitis or colonic resections. Recently colorectal ESD could be another culprit for this benign stricture, which usually occurs after resection of lateral spreading tumor occupying 75% of the lumen. Surgical treatment of these lesions is technically challenging because of the fibrosis and/or inflammation. Permanent insertion of SEMS also associated with significant and unacceptable rate of complications, such as new stricture formation and perforation. There are only a few reports about the usefulness of fully covered SEMS in patients with benign colorectal strictures. Recent one study, which included 43 patients with symptomatic strictures, revealed the effectiveness of fully covered SEMS in benign colorectal strictures. All patients with strictures during a 6-year study period were included. The efficacy of the stent, technical success, stent retrieval, safety, and recurrence of symptoms were evaluated during follow-up. SEMS insertion was successful in all patients. Clinical success was obtained in 81% and migration was observed in 63%. The mean duration of stenting was 21 days. Recurrence of obstructive symptoms was observed in 53%, irrespective of migration. The authors insisted that fully covered SEMS for treatment of symptomatic benign strictures are safe and effective, despite a high rate of spontaneous migration.\(^2\,^8\) Although this study could not define the predictive risk factors for clinical success or recurrence, they successfully managed the refractory patients who underwent several balloon dilation sessions. Future studies are needed to define the best treatment option, such as balloon dilation vs. early fully covered SEMS insertion.

**Combined techniques**

Most benign colorectal strictures could be managed with several sessions of balloon dilation or fully covered SEMS insertion. There are several reports which used combined endoscopic or novel method other than these techniques.\(^9\,^{11}\)

**Conclusions**

There are emerging novel endoscopic techniques in management of refractory benign colorectal strictures and these would be great helpful in managing patients who suffered from strictures.

**References**


