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CASE REPORT
Reconstructive

Bilateral Transposition Flap for Postoperative Anal Stenosis after Reconstruction for Paget Disease

Kengo Nakatsuka, MD
Ryo Karakawa, MD
Yuma Fuse, MD
Hidehiko Yoshimatsu, MD
Tomoyuki Yano, MD, PhD

Summary: One of the complications of anal surgery or disease is anal stenosis. To release the tension of the anus, a tension-releasing incision in the perianal skin and various anoplasty procedures are usually considered. The aim of this article is to describe a straightforward technique with local flaps for severe anal stenosis after anal reconstruction. A 57-year-old man presented to the clinic with diverticulitis secondary to severe anal stenosis, and reported difficulty with defecation after perianal skin resection around the anus and surgery to create a V-Y advancement flap for perianal primary Paget disease 9 months previously. After improvement of the diverticulitis using antibiotics, bilateral transposition flaps were transferred to release the anal stenosis. The surgical treatment for severe anal stenosis has been known to entail several complications, including infection, incontinence, anal mucosal ectropion, pruritus, wound dehiscence, and restenosis. In this severe case, because the scars were situated at the 6 o'clock and 12 o'clock positions on the anus due to the previous V-Y advancement flap, bilateral rotation flaps were transferred from the 3 o'clock and 9 o'clock positions of the anus to prevent wound dehiscence and partial flap necrosis. Three months later, the size of the anus was unchanged, but additional surgery was performed at the patient's request. A bilateral transposition flap procedure was used, with flaps designed and elevated from the 6 o'clock and 12 o'clock positions. The postoperative course was uneventful, and the anal stenosis was improved. *(Plast Reconstr Surg Glob Open 2023; 11:e5142; doi: 10.1097/GOX.0000000000005142; Published online 3 August 2023.)*

Anal stenosis is a rare but annoying condition that often arises as a complication of hemorrhoidectomy or other anorectal surgical procedures, such as anoplasty using flaps.[1] It is characterized by an abnormal inelastic constriction of the anal canal due to stricture of the epithelial lining, which is replaced by fibrous connective tissue. The incidence of anal stenosis associated with local flap closure of large perineal defects is highly variable, ranging from 7.7% to 40%.[2,3] Treatment options, both nonsurgical and surgical, should be determined based on the severity of the stenosis.[4] Although various corrective techniques are used to widen the anus depending on the surgeon's experience and the severity of the stricture, there is no universally accepted gold standard.[5] In this report, we describe a straightforward technique with local flaps for severe anal stenosis after reconstruction using bilateral V-Y flaps for Paget disease.

From the Department of Plastic and Reconstructive Surgery, Cancer Institute Hospital of the Japanese Foundation for Cancer Research, Tokyo, Japan.

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CASE REPORT

Anal stenosis is a potential complication of anal surgery or disease, and various anoplasty procedures are often used to release tension in the anus. This article describes a technique for treating severe anal stenosis after anal reconstruction using local flaps. A 57-year-old man presented with diverticulitis secondary to severe anal stenosis, which had resulted from perianal skin resection and surgery to create a V-Y advancement flap for perianal primary Paget disease (Fig. 1). Due to previous scars at the 6 o'clock and 12 o'clock positions on the anus, 3×4 cm bilateral rotation flaps were transferred from the 3 o'clock and 9 o'clock positions to prevent wound dehiscence and partial flap necrosis. Three months later, the size of the anus was unchanged, but additional surgery was performed at the patient's request. Bilateral transposition flaps, estimated 4×6 cm, were elevated and transferred from the 6 o'clock and 12 o'clock positions, and three 10-mm diameter drains were inserted (Fig. 2). The patient underwent a week-long fast to reduce tension and the risk of contamination. The postoperative course was uneventful, the anal stenosis was improved, and no restenosis was observed at 3 months postoperatively (Fig. 3). This technique may provide a straightforward solution to severe anal stenosis after anal reconstruction, with fewer complications than other treatments.

Disclosure statements are at the end of this article, following the correspondence information.

Fig. 1. The anal diameter was less than 5.3 mm.

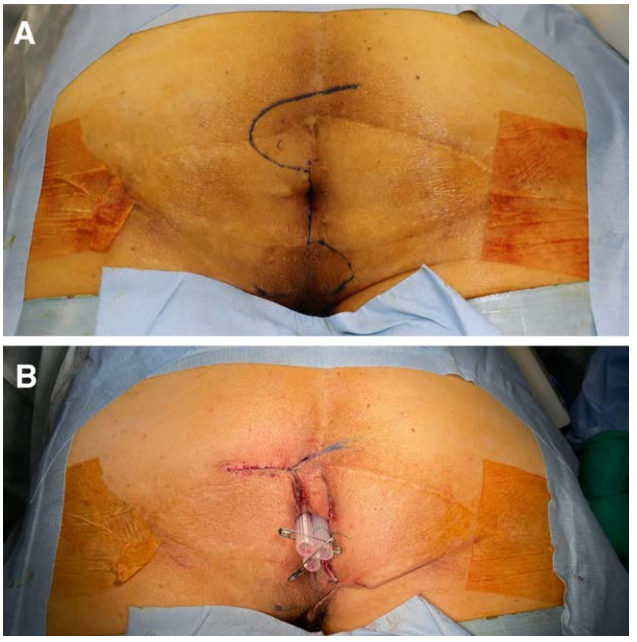

Fig. 2. The bilateral transposition flap was designed (A), elevated, and (B) transferred.

DISCUSSION

Anal stenosis is an uncommon postoperative complication after several anorectal surgeries. Typical symptoms include pain with defecation, constipation, obstipation, narrow stool caliber, and bleeding. The diagnosis of anal stenosis is based on symptoms, history of anal surgery, and local inspection using a digital rectal examination.[6] Based on severity, anal stenosis is classified into mild, moderate, and severe, with symptoms of obstructive defecation and the impossibility of performing a digital rectal examination.[6] In line with Milson and Mazier's suggested classification, the patient was found to have severe anal stenosis. The treatment methods are typically guided by the severity of the stenosis.[5]

Most patients with mild anal stenosis can be managed without surgery, through the incorporation of high-fiber foods into the diet or utilization of laxatives.[7]

Fig. 3. Postoperative 3 months after secondary revision surgery. There were no complications in the flap in the postoperative period.

If conservative management proves ineffective, scar revision surgery should be considered as a first-line option. Scar revision surgery entails only the excision of the fibrotic tissue and suturing of the wound, resulting in minimal trauma to the anoderm and decreased risk of postoperative complications compared with anoplasty.[8] However, one study has mentioned that 50% of patients with moderate anal stenosis who underwent scar revision surgery continued to have difficult defecation and incomplete evacuation.[9]

In managing severe anal stenosis, a tension-releasing incision in the perianal skin and various anoplasty procedures have been introduced.[9] Anoplasty can be performed utilizing a variety of techniques using local flap transfer, including the V-Y advancement flap, diamond flap, house flap, U flap, C flap, and rotational S flap. The choice of surgery depends on the surgeon's experience and the severity of the stricture. Although these procedures have been reported to yield positive results, several side effects have been noted, including donor site infection, incontinence, anal mucosal ectropion, pruritus, wound dehiscence, flap retraction, and restenosis.[9] Among these complications, wound dehiscence is one of the most common early postoperative complications. Several studies have mentioned that wound dehiscence occurred in 30%–60% of the patients after anoplasty.[2,3] In this case, to mitigate tension on the anal wound and prevent contamination, the patient fasted for a week, and wound irrigation was initiated postoperatively. Consequently, the patient experienced no wound dehiscence.

In this severe case, the patient had a prior history of V-Y advancement flap transfer. The patient had scars at the 6 o'clock and 12 o'clock positions on the anus caused by a previous V-Y advancement flap. Considering the blood flow within the flap, we decided that bilateral rotation flaps at the 3 o'clock and 9 o'clock positions of the anus would be the most appropriate approach. Other options such as a V-Y advancement flap or a diamond flap were also considered; however, the tip of the flap with cicatricial tissue would have been sutured to the bottom of the anoderm. Because wound dehiscence and partial necrosis

of the flap in anal strictures are major postoperative complications, this procedure was performed without a scar at the tip.

At the patient's strong request, he underwent additional surgery this time. To further dilate the anus, the 6 o'clock and 12 o'clock scar areas caused by the V-Y flap were excised, and after the anus was fully dilated, a larger flap design was used than in the previous procedure. A previous report mentions that the size of the postreconstructed anus was targeted 25–26 mm to improve the anal stenosis.[10] If the anus had been more widely dilated when the first bilateral transposition flap was performed, additional surgery would likely not have been necessary.

CONCLUSION

We conclude that the use of bilateral transposition flap transfer in previously transferred V-Y advancement flaps can be an efficacious option for the treatment of anal stenosis.

Ryo Karakawa, MD
Department of Plastic and Reconstructive Surgery
Cancer Institute Hospital of the
Japanese Foundation for Cancer Research
3-8-31 Ariake, Koto-ku
Tokyo, 135-8550 Japan
E-mail: ryo.kyara@gmail.com

DISCLOSURE

The authors have no financial interests to declare in relation to the content of this article.

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