Case Report

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Rectal Perforation Caused by Anal Stricture After Hemorrhoid Treatment

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Inappropriate therapies for hemorrhoids can lead to various complications including anorectal stricture. We report a patient presenting with catastrophic rectal perforation due to severe anal stricture after inappropriate hemorrhoid treatment. A 67-years old man with perianal pain visited the emergency room. The hemorrhoids accompanied by constipation, had tortured him since his youth. Thus he had undergone injection sclerotherapy several times by an unlicensed therapist and hemorrhoidectomy twice at the clinics of private practitioners. His body temperature was as high as 38.5°C. The computed tomographic scan showed a focal perforation of posterior rectal wall. The emergency operation was performed. The fibrotic tissues of the anal canal were excised. And then a sigmoid loop colostomy was constructed. The patient was discharged four days following the operation. This report calls attention to the enormous risk of unlicensed injection sclerotherapy and overzealous hemorrhoidectomy resulting in scarring, progressive stricture, and eventual rectal perforation.

Keywords: *Hemorrhoids; Stricture; Intestinal perforation*

INTRODUCTION

Hemorrhoids are a disease with abnormalities of submucosal tissues, which include vascular structures composed of arterio-venous channels that act as cushions in the anal canal [1]. Hemorrhoids account for more than 70% of all anal diseases and more than 90% of hemorrhoids are internal hemorrhoids. Hemorrhoids are known to be treatable with various methods. A secondary disease likely to incur after treating hemorrhoids is anal stricture, which develops in 3.8% of those treated for hemorrhoids and most of those show symptoms approximately 6 weeks after the surgery [2]. Anal stricture can also occur secondary to resection of perianal lesions, a fistulectomy, a sphincteroplasty, electric cauterization of the condyloma, and curative resection for low rectal cancer [3]. If excessive anal epithelium and rectal mucosa are removed, it can leave a scar that may progress to chronic stricture and deteriorate the anal pliability. If the damage is extended to the mechanism of sphincter, it can lead to the serious anal stricture associated with fecal incontinence, constipation, abdominal pain, or tenesmus. Many nonsurgical and surgical methods are currently known to be hemorrhoid treatments [4,5]. However, various complications from those treatment methods have been reported [6,7]. To this end, having had experiences in the treatment of patients with conditions from anal stricture even to rectal perforation that had progressed after hemorrhoid treatment, the authors report a case, in addition to a literature review.

CASE REPORT

A male patient, 67 years old, was admitted to the hospital via the emergency room, complaining of perianal pain he had been experiencing for the last month. The patient had also been suffering from constipation associated with hemorrhoids for a long time, and his symptoms, based on the criteria of chronic constipation, could be categorized as the Rome III criteria by using his medical history [8,9].

About 30 years earlier, the patient had received injection sclerotherapy from an unlicensed therapist as treatment of his condition, but such injection caused fecal incontinence. Although the fecal incontinence was quickly resolved soon, constipation became

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even more severe and required medical treatment from other hospitals. Nonetheless, the symptoms did not improve; rather, they began to deteriorate about 10 years ago. Due to this progression, he received a hemorrhoidectomy twice at clinics of private practitioners. Notwithstanding such surgical procedures, the patient's symptoms deteriorated to the extent of having difficulty in defecation so that he had to use his finger, cotton rods, or tap water for evacuation of bowel contents.

At the time of visiting the emergency room, his blood pressure was 110/74 mmHg, his heart rate was 90 times/min, his respiratory rate was 16 times/min, and his body temperature was as high as 38.5°C. From the physical examination, abdominal tenderness was discovered, but other than that, there were no findings such as rebound tenderness or abdominal rigidity. On visual examination, fibrotic tissues of about 1.5 cm in size were found to be blocking the anal canal, so the doctor could not use his little finger for a digital rectal examination (Fig. 1). The patient had diabetes mellitus and benign prostatic hypertrophy as underlying diseases, and denied having any surgical history than the two hemorrhoidectomies about 10 years earlier. From hematological assay, the white blood cell count was 13,960/μL (neutrophils, 80.9%), hemoglobin was 14.9 g/dL, platelet count was 224,000/μL, and high sensitivity C-reactive protein was 7.74 mg/dL (reference range, 0 to 0.5 mg/dL). The abdominal computed tomographic scan taken at the time of visit to the emergency room showed fecal impaction in the colon and rectum with a large quantity, and focal perforation of the posterior rectal wall was confirmed by using the extraluminal gas shadow associated with soft tissue infiltration (Fig. 2).

The patient underwent emergency surgery based on the above examination results. Under general anesthesia, an anal examination was undertaken to check the conditions at the lithotomy position; then, a resection of the fibrotic tissues occluding the anus was performed, which enabled an approach through the anal canal. After the feces had been mechanically evacuated as much as possible, the rectum was washed using saline solution, followed by betadine solution. Thereafter, the patient was repositioned supine, and the sigmoid loop colostomy was constructed at the left lower abdomen for temporary colonic diversion due to rectal perforation. The patient was permitted to sip water on the second day after the operation, began to have a liquid diet on the third postoperative day, and was discharged on the fourth postoperative day. On the first postoperative visit to the out-patient department two weeks after the discharge, a digital rectal examination showed that feces still remained inside the anus. The patient had been undergoing conservative treatment with a warm-water Sitz bath at home, and the symptoms were quite improved in comparison to his preoperative conditions.

DISCUSSION

The hemorrhoidectomy requires elaborate dissection skill to avoid overzealous undermining and to preserve the normal anoderm. Preventing any damage to the sphincter is important when performing a hemorrhoidectomy. Also, it requires agility to minimize scarring by preserving the anodermal skin island that acts as viable tissue bridge so that the surgical injuries can be naturally healed [3].

The patient had received injection sclerotherapy from an unlicensed therapist rather than being examined and treated by a licensed coloproctologist. The occurrence of temporary fecal incontinence implicates the possibility that the sphincter became problematic due to an injection into the area too deeply. Also, it is highly likely that the repetitive operations caused inflammation and formation of scar tissue that progressed into the anorectal stricture. A possibility also exists that most of the anodermal tissue had been cicatrized or had become fibrotic later inside the damaged anal canal owing to the two previous hemorrhoidectomies [10].

Fig. 1. Since fibrotic tissues closed the anus, which measured about 1.5 cm, the index finger could not be advanced through the anus on digital rectal examination.

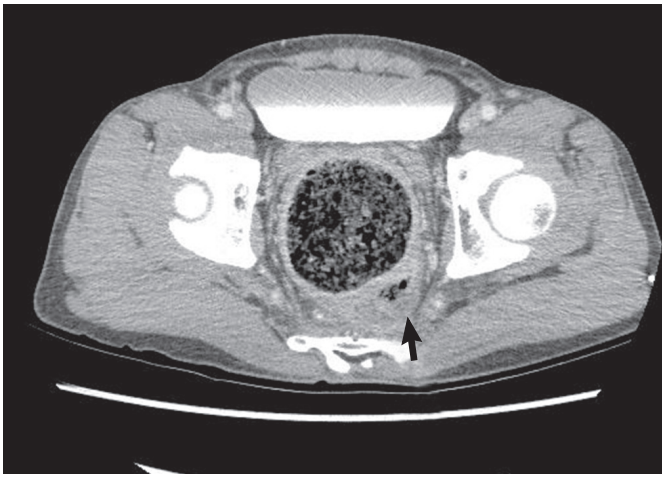

Fig. 2. The abdominal computed tomographic scan (axial view) revealed extraluminal air with soft-tissue infiltration around the posterior wall of the rectum. Arrow indicates extraluminal air.

Although many therapeutic methods for the treatment of hemorrhoids are known, if the symptoms complained of by the patients and the objective conditions are inconsistent, confirmation of the current status is required first of all. Even if a patient has a grade I hemorrhoid, performing injection sclerotherapy routinely is not desirable, and it should be noted that some hemorrhoids without prolapsed, but only with bleeding, can be treated sufficiently through consultation on dietary precautions [4]. In addition, at the time when the patient had undergone the two hemorrhoidectomies, identifications should have been made based on the presence of anorectal stricture symptoms by setting the follow-up observation period for about 6 weeks, and considerations should have been given to methods such as a sphincterotomy or a sliding skin graft. In most cases, early diagnosis and treatment have been reported to be successful [2]. In this patient, the disease was quite serious, with damage to the anal sphincter and nearly entire loss of anodermal skin or rectal mucosa, so decompressing the intestine without constructing a colostomy was difficult. Because the anal canal was occluded due to severe fibrosis when the anal examination was conducted under general anesthesia, a procedure such as a bougination, a sphincteroplasty, or a skin flap graft could not be performed [11]. As the patient had a focal perforation, which incurred from the posterior wall of the rectum, thereby being limited to the retroperitoneal cavity not to the intraperitoneal cavity, the condition was not aggravated toward generalized peritonitis. The focal perforation was suspected to be related to ischemic changes or a stercoral ulcer caused by fecal stasis in the rectum. A large mass of dry, hard stool with long stasis due to the anal stricture seemed more likely to be the cause of the focal ulceration that eventually led to the perforation in the posterior wall of the distal rectum. The patient underwent a loop colostomy after the hard feces had been removed from the rectum as much as possible [12,13]. Due to the severe damage of the anus, including anal sphincter, a possibility existed that the anus would not function properly even with skin flap. Therefore, after the evaluation of physiological and functional tests such as defecography, cinedefecography, anorectal manometry, anal electromyography, and colon transit time, a decision could be made beforehand about the feasibility of performing a closure of the colostomy.

Anal stricture is not a common post-treatment complication of hemorrhoids, but once it occurs, the patient has no other option but experiencing tremendous suffering physically and psychologically. Therefore, patients need to understand the seriousness of anal stricture and be aware of the unverified treatment methods being implemented by nonmedical personnel. In addition, the medical staff should pay careful attention to preventing any incidence of anal stricture at the time of initial treatment [14].

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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