Newly Developed Endoscopic Treatment for Small Bowel Polyps: Cold Snare Polypectomy

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Abstract

A 72-year-old man with the history of small bowel carcinoma was diagnosed to have a sessile polyp in the jejunum during a follow-up examination. We performed double-balloon endoscopy and removed the polyp by means of cold snare polypectomy. The follow-up endoscopy showed no residual lesion. Cold snare polypectomy has been established as a safe and effective method for the endoscopic treatment of colonic polyps with a low risk of causing electrocautery burns and perforation. However, this technique has not yet been applied for small bowel lesions. This case report, for the first time, shows the feasibility of performing cold snare polypectomy for small bowel polyps.

Key words: small bowel, polyp, cold polypectomy, capsule endoscopy, double-balloon endoscopy, bleeding


Introduction

Conventional polypectomy for colonic polyps using a snare with electrocautery is known to be associated with several complications, such as bleeding and perforation, which may require either blood transfusion or surgical treatment. The perforation and bleeding rates associated with this modality have been reported to be 0-0.8% and 1.2-2%, respectively (1-3). In order to reduce the risk of electrocautery burns and perforation, the cold snare polypectomy technique was developed (4). The indications for this technique is a sessile or flat polyp measuring less than 10 mm in size. It has been widely used in the treatment of colonic polyps, however, it has not yet been applied for the treatment of small bowel lesions. We herein report the first known case of small bowel polypectomy using the cold snare technique.

Case Report

A 72-year-old man with a history of small bowel carcinoma had undergone two operations over the previous four years. He did not have any symptoms, but underwent capsule endoscopy as a follow-up examination after the operation, and a small bowel polyp was thus identified. He was referred to our hospital to undergo treatment for the polyp. We subsequently performed DBE which proved to be difficult to insert due to severe abdominal adhesions. However, a 3 mm sessile polyp was found in the jejunum (Fig. 1). Despite the small size of the polyp, it was decided that polypectomy should be performed due to the patient’s history of small bowel carcinoma. We selected the cold snare polypectomy technique to avoid post polypectomy syndrome, because the repeated insertion of DBE was considered to be extremely difficult. Polypectomy was performed using the an 11 mm Profile™ Polypectomy Snare (Boston Scientific Corporation, Natick, USA). After completing cold snare polypectomy, a small amount of bleeding from the cut site was observed. Since the bleeding stopped within a short period of time, no hemoclip was used (Fig. 1). The patient was discharged without any early complications.

The histopathological results showed cylindrical cells with...
a tall nucleus, forming irregular glands.

At a result, the lesion was diagnosed to be tubular adenoma with severe atypia (Fig. 2). The margin was not free in the resected specimen, but no residual polyps were seen in the endoscopic view.

**Discussion**

The most serious complications related to colonic polypectomy are perforation and bleeding which are directly related to the use of electrocautery (4). In several studies, the use of electrocautery in polypectomy has been reported to be unnecessary for the removal of small colonic polyps (5-7). Cold snare polypectomy has been proven to be a safe and effective method for the removal of small colonic polyps without the risk of causing electrocautery burns and perforation (4-6). In addition, there is no difference in the occurrence of post-polypectomy bleeding in small colonic polyps removed by cold snare polypectomy compared with the conventional hot snare polypectomy (7). As a result, cold snare polypectomy for small colonic polyps has been widely used, however, the use of this method for small bowel polyps has not yet been reported.

In case undergoing colonoscopy, the treatment decision regarding colonic polyps depends on the interpretation of either the surface pattern using the Narrow Band Imaging or the pit pattern classification. According to one report in 2012, every polyp resection in the colon, called a ‘clean colon’, was associated with a reduction of colonic cancer death (8). In contrast, the optimal diagnostic strategy for small bowel polyps has not yet been established and the incidence of developing carcinoma at such sites much lower than in the colon. In the other word, the role of polypectomy for all small bowel polyps is unclear. However, in this case, small bowel polypectomy was selected due to a previous history of small bowel carcinoma and it was successfully performed.

There are several technical considerations that should be kept in mind when performing cold snare polypectomy with the DBE for small bowel lesions. The length of the endoscope is much longer than for colonoscopy. Generally, small bowel endoscopy often has several bends on the way into...
the small bowel. In that case, it is difficult to deliver the snare loop catheter to the tip of endoscope while passing through the channel. However, in this procedure, we were able to use the Profile Polypectomy Snare, which was thin and flexible, and therefore no technical problems arose. Cold snare polypectomy for the small bowel polyp is thus considered to be as feasible as colonic polypectomy. In addition, the cold technique has several benefits, including the fact that it does not require submucosal injection. Lifting the mucosa caused by injected water may limit the space to manage the looping snare in the lumen. An endoscopic resection also takes a longer time to complete. The use of a hemoclip is recommended in cases of acute and severe post-polypectomy bleeding, but it was not necessary in our case. The use of cold snare polypectomy in the small bowel may therefore be a safe and effective treatment alternative, but further evaluations regarding its utility and any potential complications need to be carried out.

The reported complication rate for therapeutic DBE is 4.3% (9), and the perforation rate has been reported to be 1.5% per each resected polyp (10). No fatal complications have been reported. Although therapeutic DBE appears to be a safe method, the decision to resect small bowel polyps should depend on the endoscopist’s own opinion. For example, in cases with Peutz-Jeghers syndrome, a genetic disease characterized by multiple harramatomatous polyps along the gastrointestinal tract which may cause bleeding and intussusception (11-13) and thereby increase the risk of small bowel malignancy (14), polypectomy should be performed as far as possible when the polyps are still small. At a later stage when the polyps have become large, then endoscopic resection tends to be technically more difficult to perform (15). In addition, with endoscopic polypectomy using DBE, the need for laparotomy in patients with Peutz-Jeghers syndrome will decrease (16).

The indications for cold snare polypectomy in the small bowel is therefore expected to increase after more such successful cases are reported. Further studies on the feasibility and safety of cold polypectomy in the small bowel are thus needed.

In conclusion, cold snare polypectomy may be a safe and effective method for the treatment of small adenomatous polyps of the small bowel using DBE.

The authors state that they have no Conflict of Interest (COI).

References


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