Delayed Removal of Entrapped Snare in Colonoscopic Polypectomy

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ABSTRACT

Snare entrapment is a rare complication of hot snare polypectomy of large colon polyps. We report a case of snare entrapment in our unit and its management. This report highlights the method of delayed removal of snare followed by repeat colonoscopy.

INTRODUCTION

Early detection and removal of premalignant colon polyps can help prevent progression to colorectal cancer.1 Hot snare polypectomy uses a snare device with electrocautery. Complications of hot snare polypectomy are bleeding and perforation.2 However, snare entrapment is a rare complication that can occur with large polyps. This has not been reported widely in literature, and there seems to be no set standard of care for its management. The zip-line technique has been reported in literature. This involves removing the scope over the entrapped snare and cutting the handle of the snare, followed by inserting the entrapped wire through another open snare. The second snare is then positioned below the entrapped one to complete the polypectomy.3 Other methods reported in literature include using laparoscopic bowel transection, removing the polyp piecemeal around the entrapped snare, and a dual endoscope technique with needle knife.4–6 We present a case of snare entrapment during polypectomy and how we managed it in our unit.

CASE REPORT

A 57-year-old white man was scheduled for his first colonoscopy for a positive fecal immunohistochemical test. He had no family history of colorectal cancer. His medical history included atrial fibrillation, and he was on rivaroxaban which was stopped 2 days before the procedure. He had no previous abdominal surgeries except a hernia repair in his childhood. His physical examination and laboratory results were unremarkable. On colonoscopy, a 40-mm pedunculated polyp (Paris classification 1p) with a wide stalk was found in the ascending colon (Figure 1). It demonstrated type IIIL pit pattern and did not have any endoscopic features suggesting submucosal invasion.

The original intent was to remove the polyp en bloc with hot snare polypectomy without submucosal injection; however, the 20-mm snare could not ensnare the entire polyp, and therefore, we decided to piecemeal it with a 20-mm spiral hot snare. This failed due to the nontransmittal of cautery current through a defective snare. At this point, the snare was embedded in the polyp and could not be removed despite multiple attempts (Figure 2). We proceeded with cutting the snare at the handle, removing the scope over the snare catheter, and leaving the snare in place. The snare catheter was taped to the skin at the buttock area for traction (Figure 3). The patient was instructed to hold rivaroxaban. He was discharged with a plan to notify us when the catheter falls out spontaneously.

The snare fell out spontaneously on day 5 of the procedure. Relook colonoscopy showed the residual polyp in the ascending colon, which was successfully removed with hot snare polypectomy using a 20-mm snare (Figures 4 and 5). The patient did not report any abdominal pain or discomfort during the wait time for the snare to fall off or after the second procedure. One week later, he reported he was doing well.

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DISCUSSION

Our case demonstrates a safe and effective way of managing snare entrapment. By leaving the snare in position, polyp necrosis occurred which allowed the snare to fall off. Our method minimized the risks of bleeding and perforation that would be associated with additional manipulation. The major advantage is that it uses a nonsurgical approach which is safe and well-tolerated.

It was deemed safe to discharge the patient with the embedded snare. The mechanics and physiology of leaving a closed snare on a polyp allow for choking of the stalk and the accompanying vessels which in turn causes very slow necrosis of polyp tissue by cutting off the blood supply. This gives adequate time for blood vessels to close off and the tissue to slough off without causing bleeding. The concept is similar to the banding of esophageal varices with lesser risk of bleeding. The patient was on anticoagulation for atrial fibrillation which was held 2 days before and after the procedure. He had no previous history of stroke or any other embolic events and did not require bridge therapy. The risks were discussed with the patient and his family. In addition, this was discussed with and approved by the patient’s cardiologist.

The zip-line technique could have been used in this case, but it can be cumbersome and time-consuming. The second snare can get damaged and bent, making it difficult to position over the ensnared polyp. It may also cause tissue injury to the colon wall during insertion. The zip-line technique also requires scope reinsertion so increasing the overall procedure time, hence slowing down the flow of the endoscopy unit. Our technique involves the removal of scope over the entrapped snare and taping it to the skin at the buttock for traction.

Figure 1. A 40-mm pedunculated polyp with a wide stalk.

Figure 2. Entrapped snare.

Figure 3. Snare catheter taped to the skin at the buttock for traction.

Figure 4. Residual polyp in the ascending colon.
buttocks for interval spontaneous polypectomy. The advantage of our technique is shorter procedure time and overall ease of performance as compared to the zip-line technique. The limitations are failure to procure polyp tissue, however, in this case that was not an issue because pathology was obtained from the residual polyp on the second colonoscopy. Additional limitations include the need for repeat colonoscopy and patient inconvenience.

DISCLOSURES

Author contributions: P. Phatharacharukul edited the manuscript and approved the final manuscript. M. Wajid wrote the manuscript and approved the final manuscript. H. Fatima revised the manuscript for intellectual content and approved the final manuscript.

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