Selective ligation using a detachable snare for small-intestinal polyps in patients with Peutz–Jeghers syndrome

Peutz–Jeghers syndrome (PJS) is a rare autosomal dominant hereditary disorder with an incidence of 1/200 000 live births. It is partly characterized by hamartomatous polyps of the gastrointestinal tract. The risk of malignant transformation in these polyps increases with polyp size, with cancer occurring in 15% of polyps more than 3 cm in diameter [1]. Hamartomatous polyps are detected in 88% of patients with PJS, mostly in the small intestine. We evaluated the therapeutic efficacy, clinical impact, and safety of selective ligation using a detachable snare for small-intestinal polyps in three patients with PJS. For larger polyps, this technique is safer than conventional snare polypectomy or endoscopic mucosal resection (EMR) because it minimizes the risks of postpolypectomy bleeding, thermal injury to deeper tissue layers, and perforation.

A 38-year-old man diagnosed with PJS at the age of 9 years with a history of endoscopic polypectomy, laparotomy, and partial small-bowel resection underwent barium-contrast radiography, which revealed that multiple small-intestinal polyps remained. He was hospitalized, and single-balloon enteroscopy (SBE) was first performed via the oral approach, during which the small intestine was examined for over 180 cm from the ligament of Treitz. Small polyps were removed with conventional snare polypectomy or EMR. Three large pedunculated polyps up to a maximum diameter of 15 mm were treated by a technique that used a detachable snare (Fig. 1). The polyp becomes paler in color because of ischemia due to the tightened detached snare. The polypectomy procedure using the detachable snare. a The detachable snare is placed over the neck of the polyp stalk. b The snare is tightened. c The polyp becomes paler in color because of ischemia due to the tightened detached snare. In conclusion, selective ligation with a detachable snare for small-intestinal polyps in patients with PJS is a useful alternative method for the treatment of large polyps in the small intestines of patients with PJS, especially in those with a history of extensive abdominal surgery. Polyps with diameters exceeding 30 mm or with findings suspicious of malignancy on endoscopic or radiographic investigations such as computed tomography (CT) and magnetic resonance imaging (MRI) were treated surgically because they were too large to be handled endoscopically and had the potential to be malignant. A total of eight polyps with an average diameter of 21.9 mm were treated using the detachable snare technique. The use of the detachable snare makes it easier to obtain the optimal tightness, as the head of the polyp becomes paler in color immediately following ligation (Fig. 1). The average duration of hospitalization was 9 days. This study has some limitations because tissue samples of the snared polyps could not be examined, and therefore histopathological diagnoses could not be made. In two of the three patients, a comprehensive exploration of the small intestine could not be achieved so curable polyps could not be reached, because of severe intra-abdominal adhesions due to previous extensive abdominal surgery. In conclusion, selective ligation with a detachable snare is a useful alternative method for the treatment of large polyps in the small intestines of patients with PJS, especially in those with a history of extensive abdominal surgery.
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