

Novel endoscopic management for acute diverticulitis with localized abscess

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► **Fig. 1** Limited septic diverticulitis caused by an embedded fecal stone. **a** Computed tomography showed a high density shadow (arrow) in the colon. **b** A mucosal defect was seen in the ascending colon. **c** The diverticular opening was congested and edematous. **d** X-ray showed an approximately 1-cm diverticulum (arrow). **e** Photograph of the yellow fecal stone.

The clinical spectrum of acute diverticulitis ranges from a phlegmon to limited abscesses, to free perforation with purulent or contaminated peritonitis [1]. While there is little debate about the optimal treatment for mild or very severe situations, uncertainty remains about the optimal strategy for acute diverticulitis with localized abscesses. Here, we report a successful endoscopic diverticulotomy for limited septic diverticulitis caused by a fecal stone.

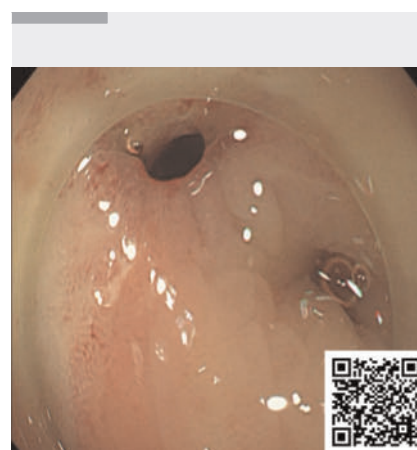
A 44-year-old man experienced sudden abdominal pain 1 week earlier and computed tomography scan at a local hospital showed a high density shadow in the colon (► **Fig. 1 a**). Colonoscopy showed a mucosal defect in the ascending colon (► **Fig. 1 b**). However, after 3 days of antibiotic treatment, the patient's abdominal pain worsened. Blood tests showed a threefold increase in C-reactive protein to 36 mg/L and a twofold increase in white blood cell counts to $18 \times 10^9/\text{L}$. The patient was then referred to our endoscopy center and underwent colonoscopy.

Septic diverticulitis was considered first. The diverticular opening was congested and edematous (► **Fig. 1 c**), and white pus could be drawn. X-ray showed an approximately 1-cm diverticulum with

inflammatory exudates, fortunately without perforation (► **Fig. 1 d**). Inspired by endoscopic septum division for esophageal diverticulum [2], the diverticular septum was incised carefully and a yellow fecal stone, about 0.6 cm in diameter, slipped out (► **Fig. 1 e**, ► **Video 1**). The bottom and the opening of the diverticulum were treated with electrocoagulation and closed by endoloop-assisted clip closure. Following this treatment and 3 days of antibiotic therapy, the patient's abdominal pain resolved and blood test results returned to the normal range.

This patient was diagnosed with a diverticular abscess caused by an embedded fecal stone. Antibiotic therapy alone for septic diverticulitis is accompanied by a high risk of recurrence owing to the persistence of the etiology [3]. In this case, we endoscopically removed the fecal stone, drained the pus, destroyed the diverticulum, and sutured with endoloop-assisted clip closure, thus avoiding the need for surgery. During a 1 year follow-up period, the patient had no further acute diverticulitis. This case demonstrates novel endoscopic management for acute diverticulitis with localized abscesses.

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► **Video 1** Endoscopic diverticulotomy with stone extraction for limited septic diverticulitis.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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