

## Novel endoscopic management for acute diverticulitis with localized abscess



► **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.

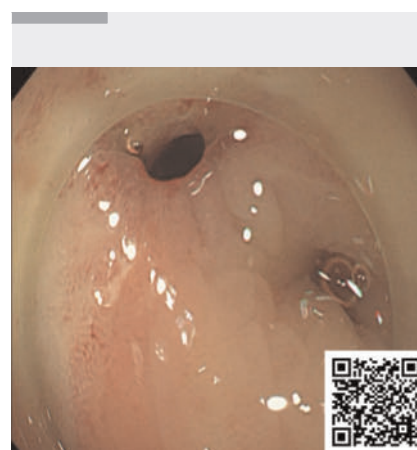
A 44-year-old man experienced sudden abdominal pain 1 week earlier and computed tomography scan at a local hospital showed a high density shadow in the colon (► **Fig. 1 a**). Colonoscopy showed a mucosal defect in the ascending colon (► **Fig. 1 b**). However, after 3 days of antibiotic treatment, the 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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## References

- [1] Sartelli M, Weber DG, Kluger Y et al. 2020 update of the WSES guidelines for the management of acute colonic diverticulitis in the emergency setting. *World J Emerg Surg* 2020; 15: 32. doi:10.1186/s13017-020-00313-4
- [2] Zhang DF, Chen WF, Wang Y et al. Submucosal tunneling endoscopic septum division for esophageal diverticulum with a median follow-up of 39 months: a multicenter cohort study. *Gastrointest Endosc* 2022; 96: 612–619
- [3] Wong WD, Wexner SD, Lowry A et al. Practice parameters for the treatment of sigmoid diverticulitis – supporting documentation. The Standards Task Force. The American Society of Colon and Rectal Surgeons. *Dis Colon Rectum* 2000; 43: 290–297. doi:10.1007/BF0225829110733108

## Bibliography

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