

Single port laparoscopic repair of sigmoid colon perforation during colonoscopy

Jung Ho Park, Sang Woo Lim, Sung Eun Kim¹, Min Jung Kim, Hyoung-Chul Park

Departments of Colorectal Surgery and ¹Internal Medicine, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, Anyang, Korea

Colonic perforation during colonoscopy is a rare but lethal complication. Recently, it is usually managed with laparoscopic approach. Here we present our experience of single incision laparoscopic repair for sigmoid colon perforation during colonoscopy. A 57-year-old male patient presented with an acute sigmoid colon perforation event during diagnostic colonoscopy. Emergency operation was performed with transumbilical single incision laparoscopic exploration. The perforated site of sigmoid colon was primarily repaired with the curved endoscopic linear stapler. The patient was discharged after 5 days uneventfully. Single port laparoscopic repair is a safe and feasible method for the management of acute colonoscopic perforation during diagnostic colonoscopy.

[Ann Surg Treat Res 2017;93(5):284-286]

Key Words: Colonoscopy, Iatrogenic, Port, Stapler, Laparoscopy

INTRODUCTION

Colonic perforation during colonoscopy is a rare but lethal complication. Recently, it is usually managed with laparoscopic approach [1-4]. The minimal invasive laparoscopic technique has benefits such as less incision length, less postoperative pain, faster recovery, and reduced postoperative hospital stay [5]. Here we present our experience of single incision laparoscopic repair for sigmoid colon perforation during colonoscopy.

METHODS

A 57-year-old male presented with an acute sigmoid colon perforation event during diagnostic colonoscopy. Endoscopic clipping repair was tried and emergency operation was performed with urgent identification of surgical abdomen combined with diffuse pneumoperitoneum on abdominopelvic computed tomography (Fig. 1).

RESULTS

Transumbilical single incision laparoscopic exploration using glove port with 3 trocar channels (Sejong Medical Co., Paju, Korea) revealed a full-thickness tearing of the sigmoid colon which was primarily repaired with single firing of curved endoscopic linear stapler (ECHELON FLEX, ENDOPATH, Ethicon, Somerville, NJ, USA) introduced via transumbilical port (Fig. 2). The suture line was checked intraluminally and acceptable patency without stenosis was found during intraoperative colonoscopy. No air or water leakage was noted.

The operation time was 55 minutes. There were no intraoperative complications, need for additional trocars, or open conversion. A closed suction drain was applied into the left paracolic gutter via transumbilical incision (Fig. 3). The patient was discharged after 5 days uneventfully (Supplementary material). Written informed consent was obtained from the patient.

Received May 25, 2017, Revised June 28, 2017, Accepted July 12, 2017

Corresponding Author: Sang Woo Lim

Department of Colorectal Surgery, Hallym University Sacred Heart Hospital, Hallym University College of Medicine, 22 Gwanpyeong-ro 170beon-gil, Dongan-gu, Anyang 14068, Korea

Tel: +82-31-380-3772, Fax: +82-31-380-1619

E-mail: swlim12@hallym.ac.kr

Copyright © 2017, the Korean Surgical Society

© Annals of Surgical Treatment and Research is an Open Access Journal. All articles are distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

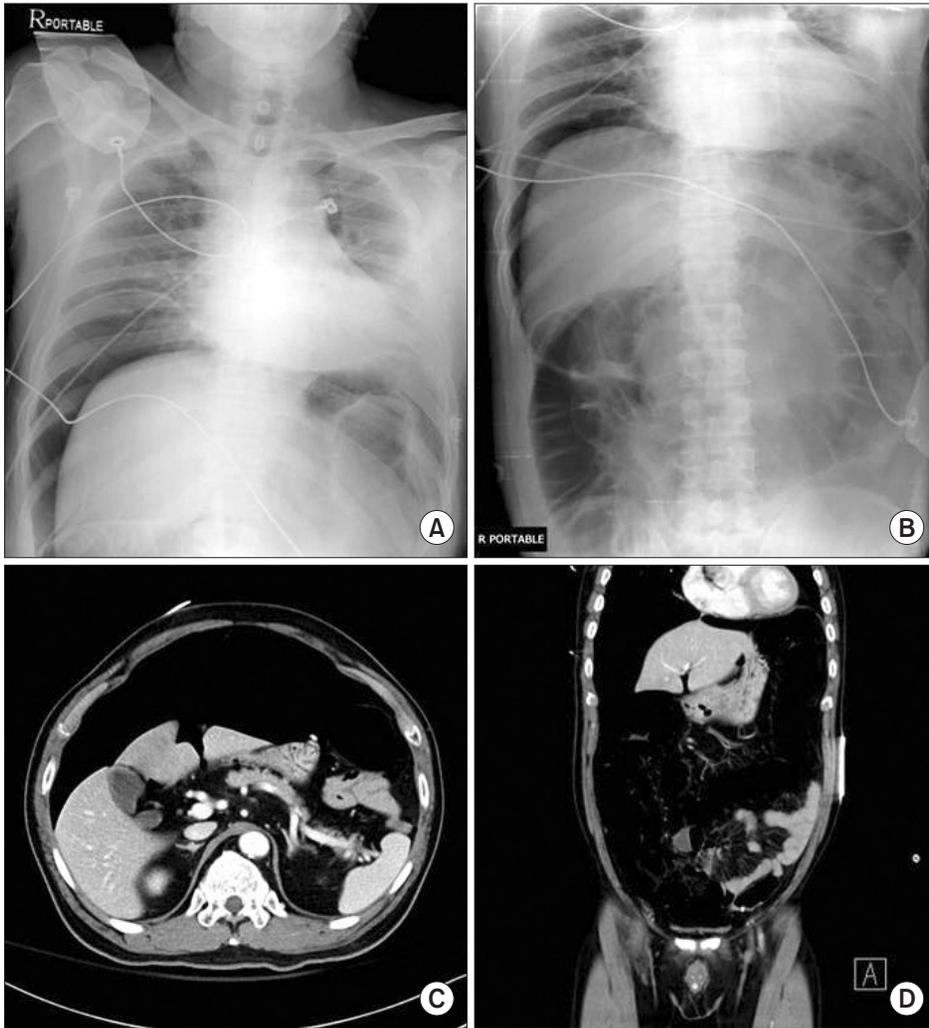


Fig. 1. Radiologic findings of tension pneumoperitoneum. (A) Chest PA. (B) Plain abdomen. (C) Abdominopelvic CT, axial view. (D) Abdominopelvic CT, coronal view.

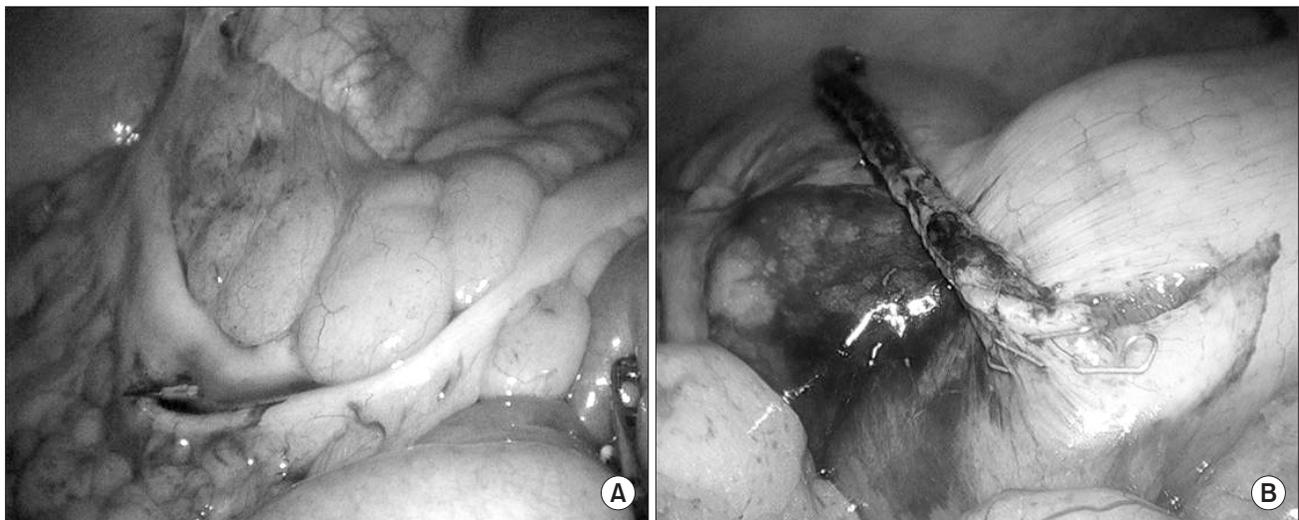


Fig. 2. Localization of perforated sigmoid colon and repair with linear stapler. (A) Intraoperative localization of perforation site. (B) After stapler fired.

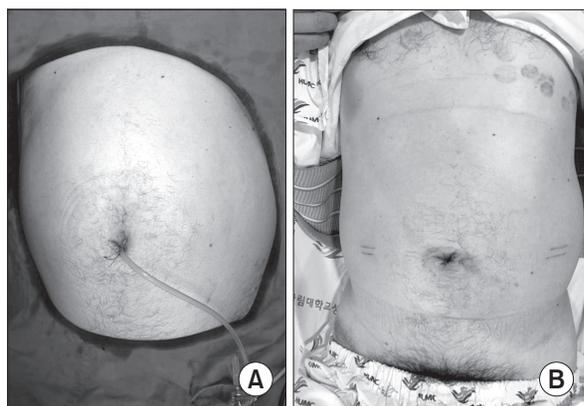


Fig. 3. Abdomen of patient postoperatively. (A) Intraoperative theatre. (B) After drain removal.

CONCLUSION

We present the experience of successful repair of colonoscopic perforation using the single port method with linear endoscopic stapler. Therefore, single port laparoscopic repair is a safe and feasible method for the management of acute colonoscopic perforation.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

SUPPLEMENTARY MATERIAL

Supplementary material can be found via <http://astr.or.kr/src/sm/astr-93-284-s001.pdf>.

REFERENCES

1. Hansen AJ, Tessier DJ, Anderson ML, Schlinkert RT. Laparoscopic repair of colonoscopic perforations: indications and guidelines. *J Gastrointest Surg* 2007;11:655-9.
2. Coimbra C, Bouffioux L, Kohnen L, Deroover A, Dresse D, Denoël A, et al. Laparoscopic repair of colonoscopic perforation: a new standard? *Surg Endosc* 2011;25:1514-7.
3. Lohsiriwat V. Colonoscopic perforation: incidence, risk factors, management and outcome. *World J Gastroenterol* 2010;16:425-30.
4. Miranda L, Settembre A, Piccolboni D, Capasso P, Corcione F. Iatrogenic colonic perforation: repair using laparoscopic technique. *Surg Laparosc Endosc Percutan Tech* 2011;21:170-4.
5. Bleier JI, Moon V, Feingold D, Whelan RL, Arnell T, Sonoda T, et al. Initial repair of iatrogenic colon perforation using laparoscopic methods. *Surg Endosc* 2008;22:646-9.