



Operative management of diverticulitis in a tertiary care center

David R. Rosen, M.D., Grace S. Hwang, M.D., Glenn T. Ault, M.D.,
Adrian E. Ortega, M.D., Kyle G. Cologne, M.D.*

Division of Colorectal Surgery, Department of Surgery, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA

KEYWORDS:

Diverticulitis;
Surgery;
Laparoscopy

Abstract

BACKGROUND: Diverticulitis has become a medically managed disease process; the indications and timing of surgical intervention have evolved.

METHODS: We retrospectively reviewed all patients who underwent surgical intervention due to diverticular disease by the Division of Colon and Rectal Surgery from 2012 to 2014.

RESULTS: Ninety-eight surgeries were performed. Indications included colovesicular fistula, multiple recurrences of diverticulitis, medically refractory diverticulitis, stricture, abscess, colocutaneous fistula, and colovaginal fistula. Average length of stay was 5.7 ± 5.9 days (range, 1 to 51). Eighteen patients (18%) required an ostomy. Postoperative complications occurred in 18% of patients, including anastomotic leak (3.3%), wound infection (7.1%), acute kidney injury (5.1%), and urinary tract infection (2.0%). Thirty-day readmission rate was 7.2%; unplanned 30-day reoperation rate was 3.1%. There were no deaths.

CONCLUSIONS: The type of patient undergoing surgery for diverticulitis has changed, with selection bias toward chronic, advanced disease due to the proliferation of medical management strategies.
© 2016 Elsevier Inc. All rights reserved.

Diverticular disease accounts for a significant amount of health care spending. It is responsible for 312,000 admissions and 1.5 million days of inpatient care per year, resulting in an annual treatment cost within the United States of more than 2.6 billion dollars.¹ As the incidence of diverticulitis continues to rise (one population study showed an increase from 115 per 100,000 person-years in the 1980s

to 188 per 100,000 person-years in the 2000s),^{1,2} so has controversy regarding its management. It is generally accepted that uncomplicated diverticulitis can undergo conservative management, and emergent surgical intervention is necessary for patients presenting with peritonitis.¹ There is a lack of consensus, however, on what to do with patients whose severity on presentation falls in between those 2 categories. Over the past 1 to 2 decades, there has been a paradigm shift in favor of nonoperative management for these patients with complicated diverticulitis.^{3,4} There is also a lack of consensus regarding the need or timing of elective colectomy after a successful conservative management strategy. Practice parameters state that the decision for surgical intervention should be individualized.⁵ Despite the paradigm shift toward nonoperative management, recent literature has shown a high failure rate in those presenting with abscesses,

There were no relevant financial relationships or any sources of support in the form of grants, equipment, or drugs.

The authors declare no conflicts of interest.

This paper was presented at the 2015 American College of Surgeons' Clinical Congress, October 4–8, 2015, Chicago, IL, USA.

* Corresponding author. Tel.: +1-323-865-3690; fax: +1-323-865-3671.

E-mail address: Kyle.Cologne@med.usc.edu

Manuscript received April 3, 2016; revised manuscript June 8, 2016

calling into question a nonoperative strategy in these patients.^{6,7} In addition, there may be some evidence of increased patient satisfaction with surgical intervention.⁸

Given the evolving indications and timing of surgical intervention, we sought to review our own practice patterns. Specifically, we aimed to study the patients at our institution who underwent surgical exploration for diverticulitis in an effort to clarify the current role of operative management. We hypothesized that the patients receiving surgical resection for diverticular disease today tend to have advanced, chronic, and more complicated disease compared with those of a decade ago; thus, there would be a higher rate of conversion and complications.

Methods

All patients who underwent elective or semielective surgical intervention due to diverticular disease by the Division of Colon and Rectal Surgery from 2012 to 2014 were retrospectively reviewed from the Division of Colon and Rectal Surgery's prospectively collected operative database. It is maintained by surgical schedulers and populated by surgeons. This database was used to identify demographic information, surgery performed, indications, types and rates of complications, and conversion rate. Complications and conversion rates were compared with historical published data. Specifically, all resections for diverticular disease in the study period were compared with published studies evaluating subjects before 2002. We hypothesized that due to more advanced, chronic, and more complicated disease compared with a decade ago, high rates of conversion and complications were likely to be seen.

Emergent cases were excluded as the lone exclusion criteria. At our institution, all elective and semielective surgical interventions performed for diverticular disease are done by the Division of Colon and Rectal Surgery. Emergent cases are done by an acute care surgeon on call, which did not always include a colorectal surgeon, and thus, these cases may not have been in our database. Five-attending colorectal surgeons comprising the department performed the cases analyzed in the study; all are fellowship trained and adept in minimally invasive surgery. Fellows and/or residents were involved in every case. Patients were offered elective resection after a single episode of complicated diverticulitis (abscess, stricture, and fistula), after 4 or more episodes of uncomplicated diverticulitis, or if they developed medically refractory or smoldering diverticulitis (with recurrent disease within 1 month of cessation of antibiotics).

Main outcome measures included anastomotic leak, other postoperative morbidity, 30-day readmission rate, unplanned 30-day reoperation rate, and mortality.

The retrospective data analysis was approved by the Institutional Review Board of the University of Southern California and was compliant with Health Insurance Portability and Accountability Act regulations.

Results

There were 98 patients (52 men and 46 women) included during the study period. Average age was 53 years old, and average body mass index was 30 ± 6.6 . Median American Society of Anesthesiologists class was 2 (range, 1 to 4), and 56% of patients had prior abdominal surgery (see [Table 1](#)). Indications for surgery included colovesicular fistula (29%), multiple recurrences of diverticulitis (20%, mean 5.2 ± 2.7 recurrences, range, 2 to 12), medically refractory diverticulitis (17%), stricture (17%), abscess (9%), colocutaneous fistula (4%), and colovaginal fistula (4%; see [Table 2](#)). All patients with multiple recurrences had at least 1 episode of complicated diverticulitis with abscess formation.

Median length of stay was 5.7 ± 5.9 days (range, 1 to 51), and median length of stay was 4 days. Semielective resection (during the same hospital admission for complicated disease) was performed in 9.2% of patients. Elective resection was done in 91% of cases. Laparoscopic surgery was used in 48% of cases. Of these 38% of cases required conversion to open surgery. The most common indication for conversion was due to lack of natural tissue planes ($n = 9$), lack of working space in an obese patient ($n = 4$), and concern for iatrogenic injury ($n = 2$, once for bowel and once for ureter; see [Table 3](#)). Ureteral stents were not routinely used in this population. The lone intraoperative complication was a ureteral transection due to distorted anatomy from adhesions. This was identified and repaired with an immediate ureteral reimplantation. Mean operative time was 168 ± 77 minutes (range, 60 to 590). Eighty-six percent of patients received a stapled anastomosis, 3% underwent sutured anastomosis, and 18 patients (18%) required an ostomy. Of these, 7 were a diverting ileostomy and 11 were an end colostomy (Hartmann's type). Ostomies were not preoperatively planned for but rather decided intraoperatively based on operative findings. Eventually, all

Table 1 Demographics and outcomes

Demographics	N = 98
Age, y	53
BMI	30 ± 6.6
ASA	$2.6 \pm .6$
Prior surgery	56%
Length of stay	5.7 ± 5.9 d
Laparoscopy	48%
Conversion rate	38%
OR time	168 ± 77 min
Ostomy	18%
Readmission (30 d)	7.2%
Reoperation (30 d)	3.1%
Death (30 d)	0
Complication rate	19%

ASA = American Society of Anesthesiologists; BMI = body mass index; OR = operating room.

Download English Version:

<https://daneshyari.com/en/article/5731049>

Download Persian Version:

<https://daneshyari.com/article/5731049>

[Daneshyari.com](https://daneshyari.com)