

# GENERAL SURGERY NEWS

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## In the News

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# Busting Myths About Diverticulitis Management

By Monica J. Smith

Should patients with uncomplicated diverticulitis be prescribed antibiotics? What is the role of colonoscopy after recovery? Is Hartmann's procedure the best we can do? Laparoscopic lavage, anyone?



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**Michael Arvanitis, MD**

At the 2020 Clinical Congress of the American College of Surgeons, held remotely, surgeons discussed facets of diverticulitis management that remain controversial or problematic.

As the understanding of diverticulitis has evolved, so have recommendations for treatment. "More patients are being treated in outpatient settings, and we've seen a concomitant move from open surgeries to laparoscopic and elective procedures," said Michael Arvanitis, MD, the section chief of colon and rectal surgery at Monmouth Medical Center, in Long Branch, N.J.

In a similar less-is-more vein, data suggest that the use of antibiotics in healthy patients with uncomplicated diverticulitis should no longer be the standard of care.

In the AVOD trial, initially published in 2012 with an update in 2019, among the 623 patients randomly assigned to antibiotic therapy or no antibiotic therapy, there was no difference in complications, recurrence or time to recovery, Dr. Arvanitis said (*Br J Surg* 2019;106[11]:1542-1548).

The most recent randomized controlled trial (RCT), which randomized 528 patients with a first-time episode of sigmoid diverticulitis to a 10-day course of antibiotics or observation, had essentially the same findings at 24 months (*Am J Gastroenterol* 2018;113[7]:1045-1052).

“A Cochrane review also found no difference with or without antibiotics, and other meta-analyses also support this approach,” Dr. Arvanitis said.

Despite Level I evidence and surgical society consensus statements recommending against antibiotic use, this reversal has not been met with wide acceptance.

“This is the area where we’ve made the most progress with several well-designed, Level I RCTs and universal agreement among the three societies, but based on our consensus conference, the public does not agree with that recommendation,” said Patricia Sylla, MD, an associate professor of surgery at Icahn School of Medicine at Mount Sinai, in New York City, referencing a survey of members of the Society of American Gastrointestinal and Endoscopic Surgeons who showed while a majority agreed with the evidence, few agreed to change practice (*Surg Endosc* 2019;33[9]:2726-2741).

“But consensus among the societies regarding colonoscopy is a bit more nebulous,” Dr. Sylla said.

Colonoscopy is generally recommended six weeks after resolution of diverticular symptoms, “but this is a strong recommendation based on low-quality evidence,” Dr. Arvanitis said.

A 2014 meta-analysis showed the risk for malignancy in patients with complicated diverticulitis was 11%, but only 0.7% in those with uncomplicated diverticulitis, suggesting colonoscopy may not be needed by everyone (*Ann Surg* 2014;259[2]:263-272).

“But patients with imaging findings such as ‘shouldering,’ obstruction and retroperitoneal lymphadenopathy, symptoms such as bleeding, or atypical recovery should undergo evaluation with colonoscopy if not recently done,” Dr. Arvanitis said.

### **Alternative to Hartmann’s Procedure**

The most common operation for acute diverticulitis, Hartmann’s procedure (HP), includes resection of the perforated segment of the sigmoid colon, creation of an end colostomy and oversewing of the distal stump. Originally described in the early 1900s as a surgical treatment for obstructive colorectal cancer, HP gained ground as a diverticulitis surgery in the early 2000s when an RCT demonstrated its superiority over the three-stage approach in terms of morbidity, reoperations and length of stay (*Br J Surg* 2000;87[10]:1366-1374).

“So why would we ask about alternatives to HP?” said Dana Hayden, MD, an associate professor of surgery at Rush Medical College, in Chicago.



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**Dana Hayden, MD**

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For starters, there are significant complications associated with HP: a wound infection rate of up to 30%, anastomotic leaks after stoma reversal, and the fact that nearly half of patients may never have their colostomy reversed.

“The other reason to seek an alternative is because I really hate the reversals; they’re always tough,” Dr. Hayden said. “So, let’s find something different to do.”

From the early 2000s to more recent studies, comparisons of HP with primary resection anastomosis (PRA) have found more or less equivocal results; a 2012 RCT found no difference in re-interventions or mortality, and a 2013 meta-analysis found lower mortality associated with PRA in patients with Hinchey stage III or IV disease (*Colorectal Dis* 2012;14[11]:1403-1410; *Int J Colorectal Dis* 2013;28[4]:447-457).

Dr. Hayden said HP may be the safest operation in patients who are severely ill with increased morbidity; but in healthier patients, she performs PRA whenever possible. “If the patient is stable, there is not a large amount of uncontrolled puss or stool spillage, and if the proximal colon and rectal tissues appear healthy, I would strongly consider primary resection anastomosis.”

Dr. Sylla advises trying to avoid diversion in PRA. “But if you really have to divert, at least do an ileostomy. Just don’t do an HP. It’s not controversial; across the board, the consensus is that HP is an incredibly morbid procedure.”

But considering that a 2015 review of more than 13,000 patients who underwent surgery for acute diverticulitis found that nearly 84% underwent an HP, acceptance of PRA lags behind the data (*Am J Surg* 2015;210[5]:838-845).

“We know surgeons in the United States are not quite adopting primary resection anastomosis as much as we think, but at least we’re in agreement that it’s a better operation,” Dr. Sylla said.

## **Laparoscopic Lavage**

Complicated diverticulitis—Hinchey stage II, III and IV disease—happens more and more frequently, and despite the difficulty of the technique and the morbidity associated with it, HP is still the go-to procedure for these patients, said Daniel A. Popowich, MD, the chief of colon and rectal surgery at St. Francis Hospital, in Roslyn, N.Y.



**Daniel A. Popowich, MD**

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“That’s largely because it’s definitive management of the disease and allows the surgeon to sleep at night. But I feel that laparoscopic lavage has a role for all-comers: young, old, immunocompetent and immunocompromised, but also for Hinchey II patients when interventional radiology drainage is not possible because of lack of a window.”

Although there is no full consensus on laparoscopic lavage, it has gained some popularity in recent years, Dr. Sylla said.

“Laparoscopic lavage used to be considered a no-no, but that’s gone full circle after a series of RCTs showed that though it is associated with a higher risk of complications in the early postoperative period, it’s safe in the long run.”

Dr. Popowich acknowledged that much of the current data on laparoscopic lavage, dating from the 1990s, are negative, and that much of the positive data are not reproducible. But a recent comparison of quality of life (QOL) and stoma rate in Hinchey stage III patients undergoing HP, laparoscopic lavage and PRA found the stoma rate to be 40%, 14% and 17% after the three procedures, respectively (*Dis Colon Rectum* 2020;63[8]:1108-1117).

“They concluded that when you consider both the surgical risks and QOL, laparoscopic lavage and PRA provide greater quality per adjusted life-years in patients with Hinchey III diverticulitis,” he said.

In his 10 years of experience with laparoscopic lavage, 22 of the 36 patients selected for the procedure were successful after initial lavage, and 18 presented later for elective minimally invasive resection. Six patients had to be converted to HP during the index operation, largely due to an uncontrollable hole in the colon. Eight patients had ongoing sepsis or fistulas to drain; four of these patients underwent successful minimally invasive PRA, and four went for attempted minimally invasive PRA but were converted to HP.

“In total, 72% of these patients avoided a stoma after index treatment, with 17% requiring conversion to a HP after the first operation,” Dr. Popowich said. All of the patients who underwent HP were subsequently reversed within six to 12 months.

Dr. Hayden is not a proponent of laparoscopic lavage. “The literature has been equivocal, but if a patient is sick enough to take to the OR, I’m uncomfortable leaving the source of sepsis in the patient’s abdomen,” she said.

Dr. Popowich noted that laparoscopic lavage is not for all patients or surgeons. “It requires patient selection and counseling by the surgeon.

“I do believe, however, that it’s a useful adjunct for all surgeons who take call and see these types of patients, as it can often be done with only three 5-mm ports and does not burn any bridges if additional intervention is needed.”