

EVALUATING IF COLONOSCOPES ARE ESSENTIAL AFTER A DIVERTICULITIS DIAGNOSIS

It was with great interest that we read the work of George Ou and colleagues¹ regarding Colonoscopy after CT-diagnosed acute diverticulitis published June 1, 2015. While this paper explores a very relevant and topical subject there are a few issues we would like to highlight.

Although this paper was published in June 2015 the data were collected for this study from 2005 to 2010. This does make the data potentially outdated, and the authors provide no justification in the paper for what appear to be arbitrarily selected dates. There also appear to be some flaws in the methodology, which could produce some bias. The paper reports 79.6% of the patients received contrast with their CTs; this should have been standardized and the others excluded. There is also no mention of how many clinicians reported the CT scans or if it was a collaborative effort or the work of an individual radiologist, as we know this can differ from generalist to specialist radiologist.²

The paper does not have any follow-up data on 50.9% of the patients, which the authors have recognized as a limitation, but this could be a source of selection bias. The authors also state that 20.2% had premalignant polyps, which they give the endoscopic findings for but do not state if these were picked up on the CT scan. This could imply that not doing a colonoscopy after CT-diagnosed diverticulitis could potentially have led to 32 missed cancers. There is some evidence that CT scans miss around 1 in 29 colorectal cancers.³

The authors' state that among the patients found to have premalignant adenoma colonoscopy was of benefit,

and they go on to suggest that it is conceivable this may have been missed without colonoscopy.

Overall, this study addresses a very relevant clinical question; however, given the points highlighted in this letter, there remains some doubt over the validity of the main conclusions. It would be worth repeating this study, rectifying these issues and those identified by the author. Until the question posed by this study is unequivocally answered, good practice would be to continue to follow-up patients with CT diagnosed diverticulitis with a colonoscopy.

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AUTHOR RESPONSE

We appreciate the insightful comments from Herron and colleagues and the opportunity to expand on a few points.

Our retrospective study¹ demonstrates that the prevalence of malignancy among patients with diverticu-

litis diagnosed on high-resolution (64-slice) CT scan was 1.4%, similar to that of average-risk population.²

The data period was chosen based on the time when high-resolution CT came into widespread use. Since then, 64-slice CT has remained the practice standard at our centre as well as at many others, thus maintaining the applicability of our results.

Ideally, contrast-enhanced CT should be used when acute diverticulitis is suspected, but this is often limited by contrast allergies and impaired renal function in practice. Although the quality of the studies are affected by lack of contrast, radiologists can still make the appropriate interpretations based on the clinical context provided by requesting clinician. We fear that excluding patients who were unable to receive contrast would have introduced substantial selection bias. To ensure that the included patients had findings consistent with acute diverticulitis, all of the CT scans in this study were retrospectively reviewed by a single radiologist specialized in abdominal imaging.

The premalignant findings in 23 patients were not specifically compared with the CT scans in this study. Unlike CT colonography, which involves bowel preparation to rid of fecal matter and enteral contrast to distend the colon as well as to enhance the appearance of polyps, plain CT scan is not designed to assess intraluminal pathology.

None of the 23 patients with premalignant findings had undergone colorectal cancer (CRC) screening in the form of endoscopy (it was unknown if they had previous screening in the form of annual fecal occult blood tests) despite a mean age of 61.5 years owing to opportunistic screening being the primary strategy

at that time. This finding, together with the fact that all 4 patients with malignancy also did not have previous CRC screening, underscores the importance of age-appropriate screening. We therefore recommend endoscopy-naïve patients undergo follow-up endoscopic evaluation. On the other hand, if a patient already had high-quality colonoscopy with no evidence of polyp within a reasonable time before diverticulitis was diagnosed, it is conceivable that a repeat colonoscopy would be redundant.

One of the strengths of this study is the use of a provincial cancer registry to capture any CRC that may have risen since the diagnosis of acute diverticulitis. Absence of additional cases of CRC in the registry among those who did not have follow-up endoscopy lends support to the idea that not all patients with acute diverticulitis require follow-up endoscopy to rule out underlying malignancy.

Based on the results of our study, we recommend selective endoscopic evaluation in the following patient populations after a diagnosis of acute diverticulitis on high-resolution CT scan: patients \geq 50 years of age who are due for CRC screening/polyp surveillance in the form of colonoscopy based on recommended intervals,³ and those with suspicious CT findings, such as a mass lesion with obstruction.

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OPERATIVE OR NONOPERATIVE MANAGEMENT OF HINCHEY III PURULENT ACUTE DIVERTICULITIS?

We read with interest the article by Dr. Vennix and colleagues¹ published in *Lancet* that rekindles the debate on management of severe acute diverticulitis (Hinchey III); the lower early morbidity of surgical resection reported by the authors definitely challenges the recent trend toward mini-invasive management by laparoscopic lavage (LL).^{2,3}

Interestingly, in the authors' whole series, major morbidity and 12-month mortality reached 30% and 11% (14% in the resection group [RG]), respectively. Overall, patients underwent 157 operations (88 primary surgeries, 40 reoperations and 29 stoma reversals), accounting for a ratio of 1.8 operations per patient (1.9 in the RG). Moreover, 52% of patients underwent ileo-/colostomy (68% in the RG), which was never reversed in 27% of cases. Finally, 15% of patients had fascial dehiscence within 1 year.

Also considering that patients with stercoral peritonitis (Hinchey IV) were excluded, results of surgery in the studied population seem poor and possibly caused by the emergency setting, rather than the purpose of surgery (resection s. nonresection). Admitting that LL is not superior because no difference is recorded between the 2 groups does not mean that performing an emergency sigmoidectomy is the best option in a septic patient with an ongoing acute peritonitis. The real, upcoming question seems to be whether Hinchey III patients (whose results are poor regardless of the performed procedure) really need emergency surgery. Since the study does not include a conservative management group, efficacy of antibiotics alone is not assessed.

We recently reported a 92% successful conservative management of hemodynamically stable patients with diverticulitis-associated pneumoperitoneum and no diffuse colonic perforation at CT (82% and 72% presenting free intraperitoneal fluid and clinical signs of diffuse

acute peritonitis, respectively).⁴ None died, 3 were reoperated and 7 required percutaneous drainage, which was considered a successful, nonoperative management, and we concluded that most non-Hinchey IV patients may be managed conservatively. Moreover, only 19 patients underwent delayed elective sigmoidectomy (with 2 reoperations), whereas 17 patients completely avoided surgery, with an overall ratio of 0.6 operations per patient.

In accordance with Vennix and colleagues, we believe that an accurate preoperative diagnosis should improve Hinchey III patient selection, not to undergo laparoscopic drainage, but rather to avoid an unnecessary surgery.

Randomized multicentre trials, comparing a surgical and a conservative approach to patients affected by non-Hinchey IV acute diverticulitis are needed to assess if, in this class of patients, less is more.

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