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**Comment on: Should a colonoscopy be offered routinely to patients with CT proven acute diverticulitis? A retrospective cohort study and meta-analysis of best available evidence**

Meyer J*et al*.Colonoscopy after diverticulitis

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**Abstract**

Latest evidence indicates that patients with acute diverticulitis have higher prevalence of colorectal cancer than reference patients. Therefore, colonoscopy should be offered after an episode of acute diverticulitis.

**Key words:** Colorectal cancer; Adenoma; Polyp; Diverticulitis; Colonoscopy; Endoscopy

Meyer J, Buchs NC, Schiltz B, Liot E, Ris F. Comment on: Should a colonoscopy be offered routinely to patients with CT proven acute diverticulitis? A retrospective cohort study and meta-analysis of best available evidence. *World J Gastrointest Endosc* 2020; In press

**Core tip:** In a recent meta-analysis, we reported higher prevalences of polyp, adenoma, advanced adenoma and colorectal cancer in patients with diverticulitis than the prevalences reported by Asaad *et al*. Further, evidence indicates that the 1-year incidence of colorectal cancer is higher in patients with diverticulitis than in reference patients. Therefore, we believe that colonoscopy should be offered after an episode of diverticulitis, in opposition with the conclusion reached by the authors.

**To the Editor**

We thank Asaad *et al*[1] for their interesting publication in the field of colorectal cancer and diverticulitis, that we have read with great attention.

The authors questioned the recommendations of the Association of Coloproctologists of Great Britain and Ireland and the American Society of Colon and Rectal Surgeons to perform a colonoscopy after an episode of acute diverticulitis. To this end, the authors compared the prevalences of polyp, hyperplastic polyp, adenoma, non-advanced adenoma, advanced adenoma and colorectal cancer in 68 patients undergoing colonoscopy after an episode of diverticulitis with the prevalences in 1309 asymptomatic patients undergoing screening colonoscopy.

In patients with diverticulitis, they reported the following prevalences: Polyp 16.2%, hyperplastic polyp 8.8%, adenoma 5.9%, non-advanced adenoma 5.9%, advanced adenoma 0% and colorectal cancer 0%. These prevalences were not significantly different from those found in patients undergoing screening colonoscopy. Then, to support their results, the authors performed a systematic review and meta-analysis of the literature (searching MEDLINE, Embase, CINHAL, the Cochrane Central Register of Controlled Trials, clinicaltrials.gov and the ISTCTN register), including three retrospective cohort studies comparing the prevalences of adenomas and neoplasms between patients with and without diverticulitis, in addition to their own study which they included in the quantitative analysis. Again, the authors described that the pooled risk differences between patients with and without diverticulitis were not different for polyp, adenoma, non-advanced adenoma, advanced adenoma and colorectal cancer.

Asaad *et al*[1] concluded that “*routine endoscopy assessment of patients after an episode of CT proven acute diverticulitis may be unnecessary*”. The authors proposed endoscopy to be performed on a “*case-by-case basis*” and to reserve it to patients with complicated diverticulitis.

However, we believe that the authors are drawing hasty conclusions that are not supported by the literature in the field. For instance, in a recent systematic review and meta-analysis pooling 31 studies representing 50445 patients, we showed that the prevalence of colorectal cancer was 1.9% (95%CI: 1.5%-2.3%) in patients with diverticulitis. When only considering patients who underwent endoscopy (12 studies), that prevalence was 2.3% (95%CI: 1.4%-3.7%). Further, we reported the following prevalences for polyps: Polyp 22.7% (21 studies, 95%CI: 19.6%-16.0%), hyperplastic polyp 9.2% (13 studies, 95%CI: 7.6%-11.2%), adenoma 14.2% (15 studies, 95%CI: 11.8%-17.1%) and advanced adenoma 4.4% (8 studies, 95%CI: 3.4%-5.8%)[2,3]. We note that these prevalences are higher than the prevalence reported by Asaad *et al*[1] in patients suffering from diverticulitis.

In our meta-analysis, we did not compare our reported prevalences to the ones from a reference population. However, in a retrospective cohort study including 506 patients with CT-proven episode of acute diverticulitis, and comparing the 1-year incidence of colorectal cancer in that population with the incidence in an age- and gender-matched population, we have shown that the incidence of colorectal cancer in patients with diverticulitis was 44-fold higher (standardized incidence ratio, 95%CI: 18.58-75.96) than in the reference population. This was observed in patients with uncomplicated episode as well as in those with complicated episode[4]. These findings were later confirmed by other teams[5,6].

Therefore, we believe that patients with diverticulitis should be offered colonoscopy to exclude neoplastic lesions[7,8].

We think that the opposing conclusions reached by Asaad *et al*[1] might be explained by limitations in their study design, as they have reported in their publication. First, we believe that the number of patients suffering from diverticulitis included by the authors over a three-year period in three centers is too small and that their study is insufficiently powered to show any difference with reference patients. Further, details regarding included patients (inpatients/outpatients, uncomplicated/complicated diverticulitis) were not reported. This is of importance as patients with complicated episode, for instance, were documented to have higher incidence of colorectal cancer[2]. Moreover, patients from the control group were part of the National Bowel Cancer Screening Program, which consisted in the guaiac fecal occult blood test (now replaced by the fecal immunochemical test)[9]. The objective of this program is to offer endoscopic screening to patients with higher probability of colorectal lesion identified by a positive fecal test. Therefore, we believe that the reference population used by Asaad *et al*[1] was not adequate and led to an overestimation of the prevalence of neoplastic lesions in control patients.

To conclude, we think that the conclusions reached by Asaad *et al*[1] should not lead to a change of practice regarding the indication for colonoscopy after an episode of diverticulitis.

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**REFERENCES**

1 **Asaad P**, Hajibandeh S, Rahm M, Johnston T, Chowdhury S, Bronder C. Should a colonoscopy be offered routinely to patients with CT proven acute diverticulitis? A retrospective cohort study and meta-analysis of best available evidence. *World J Gastrointest Endosc* 2019; **11**: 427-437 [PMID: 31367268 DOI: 10.4253/wjge.v11.i7.427]

2 **Meyer J**, Orci LA, Combescure C, Balaphas A, Morel P, Buchs NC, Ris F. Risk of Colorectal Cancer in Patients With Acute Diverticulitis: A Systematic Review and Meta-analysis of Observational Studies. *Clin Gastroenterol Hepatol* 2019; **17**: 1448-1456.e17 [PMID: 30056181 DOI: 10.1016/j.cgh.2018.07.031]

3 **Meyer J**, Buchs NC, Ris F. Reply. *Clin Gastroenterol Hepatol* 2019; **17**: 212-213 [PMID: 30558893 DOI: 10.1016/j.cgh.2018.08.075]

4 **Meyer J**, Thomopoulos T, Usel M, Gjika E, Bouchardy C, Morel P, Ris F. The incidence of colon cancer among patients diagnosed with left colonic or sigmoid acute diverticulitis is higher than in the general population. *Surg Endosc* 2015; **29**: 3331-3337 [PMID: 25631117 DOI: 10.1007/s00464-015-4093-1]

5 **Grahnat CJ**, Hérard S, Ackzell A, Andersson RE. High Probability of an Underlying Colorectal Cancer Among Patients Treated for Acute Diverticulitis. A Population-Based Cohort Follow-Up Study. *World J Surg* 2016; **40**: 2283-2288 [PMID: 26956904 DOI: 10.1007/s00268-016-3480-7]

6 **Azhar N**, Buchwald P, Ansari HZ, Schyman T, Yaqub S, Øresland T, Schultz JK. Risk of colorectal cancer following CT-verified acute diverticulitis: a nationwide population-based cohort study. *Colorectal Dis* 2020; [PMID: 32301257 DOI: 10.1111/codi.15073]

7 **Meyer J**, Buchs NC, Ris F. Colonoscopy Should Be Performed After an Episode of Uncomplicated Diverticulitis. *Dig Surg* 2019; **36**: 357 [PMID: 30304726 DOI: 10.1159/000493436]

8 **Meyer J**, Buchs NC, Ris F. Risk of colorectal cancer in patients with diverticular disease. *World J Clin Oncol* 2018; **9**: 119-122 [PMID: 30425936 DOI: 10.5306/wjco.v9.i6.119]

9 **GOV.UK**. Bowel cancer screening: programme overview.1 January 2015[cited 19 April 2020]. Available from: https://www.gov.uk/guidance/bowel-cancer-screening-programme-overview - screening-tests

**Footnotes**

**Conflict-of-interest statement:** The authors have no conflict of interest to declare.

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