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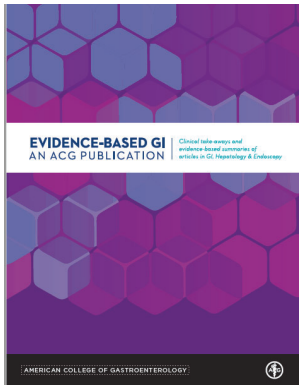

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COLONPREV Trial of FIT vs Colonoscopy

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Timothy Yen, MD
Associate Editor

COLON

This summary reviews Castells A, Quintero E, Bujanda L, et al. COLONPREV study investigators. Effect of invitation to colonoscopy versus faecal immunochemical test screening on colorectal cancer mortality (COLONPREV): a pragmatic, randomised, controlled, non-inferiority trial. Lancet. 2025 Apr 12;405(10486):1231-1239.

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Keywords: colonoscopy, RCT, FIT, screening

STRUCTURED ABSTRACT

Question: Is an invitation to colorectal cancer (CRC) screening using fecal immunochemical test (FIT) non-inferior to colonoscopy?

Design: Pragmatic randomized controlled non-inferiority trial of biennial FIT compared to 1-time colonoscopy.

Setting: Fifteen tertiary hospitals in Spain.

Patients: Eligible participants were aged between 50-69 year old persons at average risk for CRC with no recent screening (FIT within 2 years, sigmoidoscopy/colonoscopy within 5 years). Excluded personal history of CRC/adenoma/irritable bowel disease, family history of CRC, severe comorbidity, or prior colectomy.

Intervention: Invitation letter to schedule either 1-time colonoscopy or biennial

FIT with educational material, with reminder letters at 3 and 6 months if no response. Crossover was allowed.

Outcomes: Primary outcome was CRC-related mortality at 15 years. Secondary outcomes included incident CRC rate at 10 or 15 years, major adverse events, yield for pre-cancerous polyps, cost-effectiveness, covariate factors for participation.

Data Analysis: The primary analysis assessed intention to screen (original assigned group) population, while the secondary analysis included a per-protocol analysis (only those who completed originally assigned screening test). Risks calculated with risk ratios (RRs) and odds ratios (ORs). Inverse probability weighting for age, gender, and institution for as-screened and per-protocol analysis (a form of propensity score weighting in causal inference).

Funding: The Scientific Foundation of the Spanish Association Against Cancer and the Carlos III Health Institute, Spain. [Fundación Científica de la Asociación Española contra el Cáncer and Instituto de Salud Carlos III].

Results: Overall, 26,322 eligible persons were invited to colonoscopy, and 26,719 eligible persons were invited for FIT. Among those invited to colonoscopy, 31.8% completed some sort of screening, while 39.9% completed some sort of screening in the FIT group (RR 0.79 [95% CI 0.77-0.82]). Among those who completed FIT, 53.0% participated in > 80% of offered tests.

In the intention to treat population, CRC mortality was 0.22% for colonoscopy and 0.24% for FIT (RR 0.92 [95% CI 0.64-1.32]). CRC rate at 10 years was 1.13% for colonoscopy versus 1.22% for FIT (RR 0.92 [95% CI 0.79-1.08]). Advanced colorectal polyps were found in 3.2% and 2.4% of colonoscopy and FIT groups, respectively (RR 1.39 [95% CI 1.25-1.54]). Major complications rate was 0.3% (no significant between group difference). Among 15,818 who completed their invited test in the per-protocol population, there was a significantly lower incident CRC rate of 0.85% vs 1.28% (RR 0.67 [95% CI 0.47-0.95]) and CRC-related mortality of 0.02% vs 0.11% (RR 0.17 [95% CI 0.02-0.64]) in colonoscopy versus FIT.

COMMENTARY

Why Is This Important?

Prior to this study, there was no substantial randomized controlled trial (RCT) data comparing the "real-world" use of the 2 most common screening modalities. Although colonoscopy is commonly considered the "gold-standard", it is costly, has a higher risk than non-invasive tests, and inherently has a lower participation rate than FIT due to its need for substantial healthcare resources and patient participation with bowel preparation etc.[1] Similar to the NordICC pragmatic RCT,[2] this was a study assessing the uptake of invitation to screening, rather than a study aimed at assessing efficacy of screening modalities. While the NordICC study compared colonoscopy to no-invitation, COLONPREV compared invitation to FIT against an invitation to colonoscopy.

Key Study Findings

COLONPREV found that an invitation to FIT was no different in preventing death from CRC (or CRC diagnoses) than an invitation to colonoscopy. This affirms the use of FIT-based organized screening programs in select healthcare networks/institutions around the United States, particularly when participation and/or cost is a major concern.

Caution

The authors clearly point out that participation was 32% for colonoscopy invitations and 40% for FIT invitations, which is quite a bit lower than the 80% screening goal of the National Colorectal Cancer Roundtable.[3] This may be related to the fact that invitees were randomized to colonoscopy/FIT before offering consent for screening, in contrast to including only persons that agreed to participate in screening for the study. This also highlights the importance of quality improvement in an organized screening program, such that those leading the program can monitor the impact of outreach efforts (such as patient navigation, etc.) in reaching a desired screening uptake goal. Also, the FIT test was calibrated to different hemoglobin concentrations during the first versus subsequent rounds of screening. This is known to impact the yield of FIT, and is commonly done in other countries based on screening resources and population prevalence, but is not as commonly done in the United States.[4]

Finally, the per-protocol analysis favoring colonoscopy over FIT are encouraging but must be interpreted with caution, as those willing to respond to a colonoscopy invitation in a country where colonoscopy is not as commonplace as the United State are likely different from other participants for a variety of reasons that cannot be controlled.

My Practice

Most of my practice, liked much of the United States, is in an opportunistic screening setting in which CRC screening is done through shared decision-making between the patient and provider. In this instance, this pragmatic RCT does not change my discussion with each patient that whether colonoscopy is truly the "gold-standard" for CRC prevention is still an open question yet to be answered. That being said, I do spend some of my clinical time at a safety-net and federally qualified health center, in which an organized CRC screening approach using FIT is a very reasonable tactic operationally for patient care.

For Future Research

The CONFIRM and SCREESCO studies are underway in the United States and Sweeden, respectively, which will hopefully answer the question of how much FIT reduces CRC-related mortality and incident CRC rate compared to colonoscopy.[5, 6] CONFIRM in particular will more likely represent practice patterns in the US, where uptake of screening is generally high, including colonoscopy which is the test of choice for many people.

Conflict of Interest

No conflicts of interest.

Abbreviations

CRC, colorectal cancer; FIT, fecal immunochemical test; OR, odds ratios; RCT, randomized controlled trials; RR, risk ratios.

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The Updated ACG Guidelines to Manage Adult Ulcerative Colitis Patients

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IBD

This summary reviews Rubin DT, Ananthakrishnan AN, Siegel CA, Barnes EL, Long MD. ACG Clinical Guideline Update: Ulcerative Colitis in Adults. Am J Gastroenterol. 2025 Jun 3;120(6):1187-1224 .

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Keywords: Guideline, ulcerative colitis, inflammatory bowel disease

STRUCTURED ABSTRACT

Question: How can healthcare providers manage ulcerative colitis (UC) in adults? What are appropriate therapies for mild-to-moderate disease, moderate-to severe disease and the hospitalized patient?

Design: GRADE methodology was used to assess benefits and risks of therapies and diagnostic tests. When the evidence was not appropriate for the GRADE process, an expert consensus approach was used to formulate key concepts statement. The Patient Intervention Comparison and Outcomes (PICO) format was used to develop key questions of clinical relevance to be addressed in the guideline. The primary aim of treatment is to achieve and maintain long-term remission without the use of steroids, while also ensuring adequate psychosocial support, a normal health-related quality of life (HRQoL), and social well-being. Additional goals include preventing complications such as hospitalizations, surgeries, and cancer.

Patients: Adult patients with diagnosed ulcerative colitis, whose disease severity is mild-to-moderate or moderate-to-severe or who are hospitalized with acute severe UC (ASUC).

Table 1. Summary and strength of GRADED recommendations for the management of ulcerative colitis. Access this table through the guideline.

Diagnosis, assessment, monitoring, and prognosis of ulcerative colitis
1. We recommend stool testing to rule out *Clostridioides difficile* in patients suspected of having UC (Strong recommendation, very low quality of evidence).
2. We recommend against serologic antibody testing to establish or rule out a diagnosis of UC (Strong recommendation, very low quality of evidence).
3. We recommend against serologic antibody testing to determine the prognosis of UC (Strong recommendation, very low quality of evidence).
Goals for managing patients with ulcerative colitis
4. We recommend treating patients with UC to achieve endoscopic improvement (defined as resolution of inflammatory changes [Mayo endoscopic score 0 or 1]) to increase the likelihood of sustained steroid-free remission and to prevent hospitalizations and surgery (Strong recommendation, moderate quality of evidence)
5. We recommend the use of FC in UC to assess response to therapy, to evaluate suspected relapse, and during maintenance (Strong recommendation, moderate quality of evidence)
Induction and maintenance of remission in mildly to moderately active UC
6. In patients with mildly to moderately active ulcerative proctitis, we recommend rectal 5-ASA therapies at a dose of 1 g/daily for induction of remission (Strong recommendation, moderate quality evidence)
7. For patients with mildly to moderately active proctitis not responsive to topical 5-ASA, we suggest tacrolimus suppository or beclomethasone suppository over no treatment (Conditional recommendation, low quality of evidence)
8. For patients with mildly to moderately active proctitis or left sided colitis, we suggest use of topical corticosteroids (suppository, foam, enema), over no treatment (Conditional recommendation, very low quality of evidence)
9. In patients with mildly to moderately active proctitis or left sided colitis, we recommend rectal 5-ASA enemas at a dose of at least 1 g/daily preferred over rectal steroids for induction of remission (Strong recommendation, moderate quality of evidence)
10. In patients with mildly to moderately active left-sided UC, we suggest rectal 5-ASA enemas at a dose of at least 1 g/daily combined with oral 5-ASA at a dose of at least 2.0 g/daily compared to oral 5-aminosalicylate therapy alone for induction of remission (Conditional recommendation, low quality of evidence)
11. In patients with mildly to moderately active left-sided UC, who are intolerant or nonresponsive to oral and rectal 5-ASA at appropriate doses (oral at least 2.0 g daily and rectal at least 1 g daily), we recommend oral budesonide MMX 9 mg/d for induction of remission (Strong recommendation, moderate quality of evidence)
12. In patients with mildly to moderately active extensive colitis, oral 5-ASA at a dose of at least 2.0 g daily is recommended to induce remission (Strong recommendation, moderate quality of evidence)
13. In patients with UC of any extent who fail to respond to 5-ASA therapy, we recommend oral systemic corticosteroids to induce remission (Strong recommendation, low quality of evidence)
14. In patients with mildly to moderately active UC who fail to reach remission with appropriately dosed 5-ASA (at least 2–4.8 g daily oral mesalamine and/or at least 1 g daily rectal mesalamine), we suggest against changing to an alternate 5-ASA formulation to induce remission. Alternative therapeutic classes should be considered (Conditional recommendation, low quality of evidence)
15. In patients with mildly active UC of any extent, we suggest using a low dose (2.0–2.4 g) of 5-ASA, in comparison with a higher dose (4.8 g) because there is no difference in remission rate (Conditional recommendation, very low quality of evidence)
16. In patients with mildly to moderately active UC of any extent not responding to oral 5-ASA, we recommend the addition of budesonide MMX 9 mg/d to induce remission (Strong recommendation, moderate quality of evidence)
17. In patients with mildly to moderately active UC of any extent using 5-ASA to induce remission, we recommend either once daily or more frequently dosed oral 5-ASA based on patient preference to optimize adherence because efficacy and safety are no different (Strong recommendation, moderate quality evidence)
18. In patients with mildly active ulcerative proctitis, we recommend rectal 5-ASA at a dose of 1 g daily for maintenance of remission (Strong recommendation, moderate quality of evidence)
19. In patients with mildly active left-sided or extensive UC, we recommend oral 5-ASA therapy (at least 1.5 g/d) for maintenance of remission (Strong recommendation, moderate quality of evidence)
20. We recommend against systemic, budesonide MMX, or topical corticosteroids for maintenance of remission in patients with UC (Strong recommendation, moderate quality of evidence)
Induction of remission in moderately to severely active UC
21. In patients with moderately active UC, we recommend oral budesonide MMX for induction of remission (Strong recommendation, moderate quality of evidence)
22. In patients with moderately to severely active UC of any extent, we recommend oral systemic corticosteroids to induce remission (Strong recommendation, low quality of evidence)
23. In patients with moderately to severely active UC, we recommend against monotherapy with thiopurines or methotrexate for induction of remission (Strong recommendation, low quality of evidence)

Table 1. Summary and strength of GRADED recommendations for the management of ulcerative colitis (Continued)

24. In patients with moderately to severely active UC, we recommend S1P receptor modulators, ozanimod and etrasimod, for induction of remission (Strong recommendation, moderate quality of evidence)
25. In patients with moderately to severely active UC, we recommend the IL-12/23p40 antibody ustekinumab for induction of remission (Strong recommendation, moderate quality of evidence)
26. In patients with moderately to severely active UC, we recommend the IL23p19 inhibitor guselkumab, mirikizumab, or risankizumab for induction of remission (Strong recommendation, moderate quality of evidence)
27. In patients with moderately to severely active UC, we recommend vedolizumab for induction of remission (Strong recommendation, moderate quality of evidence)
28. In patients with moderately to severely active UC, we recommend anti-TNF therapy using infliximab for induction of remission (Strong recommendation, high quality of evidence)
29. In patients with moderately to severely active UC, we recommend anti-TNF therapy using adalimumab or golimumab for induction of remission (Strong recommendation, moderate quality of evidence)
30. In patients with moderately to severely active UC, we recommend the JAK inhibitor tofacitinib for induction of remission (Strong recommendation, moderate quality of evidence)
31. In patients with moderately to severely active UC, we recommend the JAK inhibitor upadacitinib for induction of remission (Strong recommendation, high quality of evidence)
32. In patients with moderately to severely active UC who have failed 5-ASA therapy and in whom advanced therapies with biologics or JAK inhibitors are used for induction of remission, we suggest against using 5-ASA for added clinical efficacy (Conditional recommendation, very low quality of evidence)
33. When infliximab is used as induction therapy for patients with moderately to severely active UC, we recommend combination therapy with a thiopurine (Strong recommendation, moderate quality of evidence for azathioprine)
Maintenance of remission in patients with previously moderately to severely active UC
34. In patients with prior moderately to severely active UC who have achieved remission but previously failed 5-ASA therapy and are now on anti-TNF therapy, we suggest against using concomitant 5-ASA for efficacy of maintenance of remission (162) (Conditional recommendation, low quality of evidence)
35. In patients with prior moderately to severely active UC, we recommend against systemic corticosteroids for maintenance of remission (Strong recommendation, moderate quality of evidence)
36. For patients with prior moderately to severely UC now in remission due to corticosteroid induction, we suggest thiopurines for maintenance of remission as compared with no treatment or corticosteroids (Conditional recommendation, low quality of evidence)
37. In patients with prior moderately to severely active UC now in remission, we suggest against using methotrexate for maintenance of remission (Conditional recommendation, low quality of evidence)
38. We recommend continuing S1P receptor modulators ozanimod or etrasimod for maintenance of remission as compared with no treatment after induction of remission with these agents (Strong recommendation, moderate quality of evidence)
39. We recommend continuing ustekinumab for maintenance of remission as compared to no treatment in patients who responded to the induction dose of this medication (Strong recommendation, moderate quality of evidence)
40. We recommend continuing guselkumab, mirikizumab, or risankizumab as compared with no treatment for maintenance of remission in patients who respond to the induction dosing of the same treatment (Strong recommendation, moderate quality of evidence)
41. We recommend continuing vedolizumab as compared with no treatment for maintenance of remission (IV or SC dosing) in patients with prior moderately to severely active UC now in remission after vedolizumab induction (Strong recommendation, moderate quality of evidence)
42. We recommend continuing anti-TNF therapy using adalimumab, golimumab or infliximab (IV or SC dosing) for maintenance of remission after anti-TNF induction in patients with prior moderately to severely active UC (Strong recommendation, moderate quality of evidence)
43. We recommend continuing tofacitinib or upadacitinib as compared with no treatment for maintenance of remission in patients with prior moderately to severely active UC now in remission after induction with tofacitinib or upadacitinib (Strong recommendation, moderate quality of evidence)
Positioning considerations for the patient with moderately to severely active UC
44. In patients with moderately to severely active UC who are responders to anti-TNF therapy and now losing response, we suggest measuring serum drug levels and anti-drug antibodies (if there is not sufficient drug present) to assess reason for loss of response (Conditional recommendation, very low quality of evidence)
45. In patients with moderately to severely active UC, we recommend vedolizumab as compared to adalimumab for induction and maintenance of remission (Strong recommendation, moderate quality of evidence)
Management of the hospitalized patient with acute severe UC
46. In patients with ASUC, we recommend testing for *C. difficile* infection (Strong recommendation, moderate quality of evidence)
47. In patients with ASUC, we recommend pharmacologic DVT prophylaxis as compared with no prophylaxis to prevent VTE (Strong recommendation, low quality of evidence)
48. We recommend against routine use of broad-spectrum antibiotics in the management of ASUC (Strong recommendation, low quality of evidence)

Table 1. Summary and strength of GRADED recommendations for the management of ulcerative colitis (Continued)

49. We suggest against total parenteral nutrition for the purpose of bowel rest in ASUC (Conditional recommendation, very low quality of evidence)
50. In patients with ASUC, we recommend a total of 60 mg/d of methylprednisolone or hydrocortisone 100 mg 3 or 4 times per day to induce remission (Strong recommendation, low quality of evidence)
51. In patients with ASUC failing to adequately respond to IVCS by 3 d, we recommend medical rescue therapy with infliximab or cyclosporine (Strong recommendation, moderate quality of evidence)
52. In patients with ASUC who achieve remission with infliximab treatment, we recommend maintenance of remission with the same agent (Strong recommendations, moderate quality of evidence)
53. In patients with ASUC who achieve remission with cyclosporine treatment, we suggest maintenance of remission with thiopurines (Conditional recommendation, low quality of evidence)
54. In patients with ASUC who achieve remission with cyclosporine treatment, we suggest maintenance of remission with vedolizumab (Conditional recommendation, very low quality of evidence)

5-ASA, 5-aminosalicylic acid; ASUC, acute severe ulcerative colitis; DVT, deep vein thrombosis; FC, fecal calprotectin; IL, interleukin; IV, intravenous; IVCS, intravenous corticosteroids; JAK, Janus kinase; MMX, Multi Matrix System; SC, subcutaneous; S1P, sphingosine-1-phosphate; TNF, tumor necrosis factor; UC, ulcerative colitis; VTE, venous thromboembolism.

Table 2. Summary of key concept statements for the management of ulcerative colitis.

Access this table through the guideline.

Diagnosis, assessment, monitoring, and prognosis of ulcerative colitis
1. The diagnosis of UC should be suspected in patients with hematochezia, increased stool frequency, or bowel urgency
2. Infectious etiologies should be excluded at the time of diagnosis
3. Colonoscopy with intubation of the ileum and biopsies of affected and unaffected areas should be obtained to confirm the diagnosis of UC, with mucosal biopsies interpreted by a pathologist, preferably one with expertise in gastrointestinal pathology
4. Categories of disease extent include (i) proctitis (within 18 cm of anal verge, distal to rectosigmoid junction), (ii) left-sided colitis (extending from sigmoid to splenic flexure), (iii) extensive colitis (beyond splenic flexure which includes those with involvement of the entire colorectum [pancolitis])
5. If the terminal ileum is normal, further evaluation of the stomach and small bowel by upper endoscopy and cross-sectional imaging is not needed unless there are other symptoms or findings to suggest proximal gastrointestinal involvement or a diagnosis of Crohn's disease rather than UC
6. Definitions of disease severity are needed to guide treatment decisions; definitions should be based on (i) patient-reported outcomes (bleeding, normalization of bowel habits, bowel urgency), (ii) the inflammatory burden (endoscopic assessment including extent and severity and markers of inflammation including FC, CRP, and serum albumin), (iii) disease course (need for hospitalization, need for steroids, failure to respond to medications), and (iv) disease impact (HRQoL and social functioning)
7. Endoscopic severity should be reported using a validated endoscopic scale such as the Mayo Endoscopic Score or the UC Endoscopic Index of Severity
8. Disease assessment and monitoring in response to therapy and during maintenance and periods of suspected relapse may be performed with FC, CRP, endoscopic assessment with flexible sigmoidoscopy or colonoscopy, and/or intestinal ultrasound
Goals for managing patients with ulcerative colitis
9. UC is a chronic condition for which therapy is required to induce and maintain remission; therapeutic decisions should be categorized into those for (i) induction and (ii) maintenance, with goals of obtaining and maintaining a steroid-free remission and obtaining biological response through reduction in biomarkers or endoscopic improvement
10. Strategies for management of UC should reflect the patient's and provider's goals and recognize the chronic nature of the disease
11. Symptomatic remission relates to improvement in PROs while endoscopic healing is defined as restoration of intact mucosa without friability. Deep remission is a combination of symptomatic remission and endoscopic healing and is a preferred goal of management. Corticosteroid-free remission is defined based on symptoms and endoscopic findings without corticosteroid use for a sustained period of time (usually more than 12 wk)
12. Initial treatment of UC should focus on restoration of normal bowel frequency and control of the primary symptoms of bleeding and bowel urgency. An endoscopically healed mucosa is associated with sustained remission and reduced risk of colectomy
13. Histologic remission is associated with some improved clinical outcomes but has not yet been validated prospectively as a preferred target for treatment
14. Control of mucosal inflammation may reduce dysplasia risk
15. Given the chronic nature of UC and the therapies for UC, monitoring for disease-related and drug-related complications is important. This should incorporate preventive strategies as outlined here and in a separate guideline from the ACG (100).
16. Routine visits are recommended to monitor for relapse and address health maintenance needs
17. Patients with UC should be screened for coexistent anxiety and depressive disorders, and when identified, patients should be provided with resources to address these conditions

Table 2. Summary of key concept statements for the management of ulcerative colitis (Continued)

Induction and maintenance of remission in mildly to moderately active UC
18. Patients with mildly to moderately active UC and a number of prognostic factors associated with an increased risk of hospitalization or surgery should be treated with therapies for moderate-to-severe disease (Table 8). Each prognostic factor carries a different weight and must be discussed in a shared decision-making fashion with the patient. For example, age alone is a weaker prognostic factor than severe endoscopic activity. However, young age combined with another factor may represent sufficient criteria to treat using therapies with proven efficacy in patients with moderate-to-severe UC
19. Patients with mildly to moderately active UC should be reassessed to determine response to induction therapy within 8 wk
20. There is not sufficient evidence for routine use of probiotics, prebiotics, or other alternative therapies as primary induction therapy for patients with mildly to moderately active UC
21. There is not sufficient evidence of an optimal approach to fecal microbial transfer as a primary induction treatment for patients with mildly to moderately active UC
22. Patients with previously mildly to moderately active UC who have achieved remission should be treated with maintenance therapy with demonstrated efficacy in prevention of relapse
23. In patients with previously mildly to moderately active UC who have achieved remission, there is insufficient evidence to recommend the use of a probiotic as primary or adjunctive therapy for maintenance of remission
Induction of remission in moderately to severely active UC
24. Patients with mildly to moderately active UC who are not responsive (or are intolerant) to 5-ASA therapies should be treated as patients with moderate-to-severe disease
25. Strategies for the management of the nonhospitalized moderately or severely active patient with UC are similar with the exception of a few considerations in which the data exist specifically for a patient with moderately active UC
a. 5-ASA therapy could be used as monotherapy for induction of moderately but not severely active UC
b. In patients with moderately active UC, consider nonsystemic corticosteroids such as budesonide MMX before the use of systemic therapy
c. In patients with severely active UC, consider systemic corticosteroids rather than topical corticosteroids
d. Corticosteroids may be avoided entirely when other effective induction strategies are planned
26. The extent of bowel involvement in moderately to severely active UC should not limit the choice of advanced therapies for these patients. This includes patients with moderately to severely active isolated proctitis who should have access to and be treated with therapies with demonstrated efficacy in patients with more extensive UC of similar activity
27. Data on combination anti-TNF and immunomodulators in moderately to severely active UC only exist for infliximab and thiopurines
28. The patient with nonresponse or loss of response to anti-TNF therapy should be assessed with trough serum concentrations of drug to identify the reason for lack of response and whether to optimize the existing therapy or select an alternate therapy
29. Patients who are primary nonresponders to an anti-TNF (defined as lack of therapeutic benefit after induction and despite sufficient serum drug concentrations) should be evaluated and considered for alternative mechanisms of disease control (e.g., in a different class of therapy) rather than cycling to another drug within the anti-TNF class
30. Biosimilars to anti-TNF therapies and to ustekinumab are acceptable substitutes for originator therapies. Delays in switching should not occur and patients and clinicians should be notified about such changes
31. Subcutaneous infliximab and vedolizumab are considered equivalent to the standard intravenous maintenance dosing of these agents. The equivalence of the subcutaneous formulations for induction or as substitution for escalated doses of these therapies has not been robustly established
32. Obtain consultation with a surgeon and consider colectomy in patients with moderately to severely active UC who are refractory or intolerant to medical therapy
Maintenance of remission in patients with previously moderately to severely active UC
33. 5-ASA therapy for maintenance of remission is likely not as effective in prior severely active UC as compared with prior moderately active UC (140)
34. Budesonide MMX has not been studied for maintenance of remission of prior moderately to severely active UC
35. Most clinical trials and available data demonstrate a benefit of using the steroid-sparing therapy that induces remission to maintain that remission
36. There is insufficient evidence supporting a benefit for proactive therapeutic drug monitoring in all unselected patients with UC in remission
37. There is insufficient evidence to recommend assessment of serum concentrations of vedolizumab, ustekinumab, guselkumab, mirikizumab, or risankizumab
38. Patients with moderately to severely active UC who do not maintain remission despite optimized medical therapy should be considered for elective proctocolectomy
39. A patient with moderately to severely active disease regardless of the extent of bowel involvement (including isolated proctitis) should be treated with therapies that have demonstrated efficacy for the activity and severity of the disease

Table 2. Summary of key concept statements for the management of ulcerative colitis (Continued)

Positioning considerations for the patient with moderately to severely active UC
40. There are no validated therapeutic biomarkers or companion diagnostic tests to enhance selection or predict response to treatment for the patient with active UC
41. Patients with UC should have available all medical options as recommended by their doctor and health care team. Third-party payers and requirements for step therapy should not come between the patient and their health care team in making decisions about treatment for UC.
42. Patients with moderately to severely active UC have higher rates of response and remission with their first therapies than after failure of one or more other advanced therapies
43. Given the expanding number of therapies per mechanistic class, a distinction between primary nonresponse and secondary nonresponse is important to select the next therapeutic option
44. *Post hoc* subgroup analyses and network meta-analyses provide hypothesis-generating data but are not sufficient to stratify therapies for individual patients
45. Infliximab is the preferred anti-TNF therapy for patients with moderately to severely active UC
46. Some patients with moderately to severely active UC who are at higher risk for infectious complications may benefit from vedolizumab or an anti-IL-23 strategy over more systemically immunosuppressive medical options
47. Initial and subsequent therapies for moderately to severely active UC may be chosen based on extra-intestinal manifestations, including the involvement of joints or skin, in which therapies which have efficacy in both UC and in the extraintestinal organ is known
Management of the hospitalized patient with acute severe UC
48. All patients with ASUC should undergo a flexible sigmoidoscopy within 72 hours and preferably within 24 hours of admission. This should be used to assess endoscopic severity of inflammation and to obtain biopsies to evaluate for cytomegalovirus colitis
49. All patients with ASUC should be assessed for the presence of toxic megacolon
50. Response in patients with acute severe UC should be monitored using stool frequency, rectal bleeding, physical examination, vital signs, and serial CRP measurements
51. Nonsteroidal anti-inflammatory drugs, narcotics, and medications with anticholinergic side effects should be avoided in ASUC
52. In patients with ASUC failing to adequately respond to medical therapy by 3 d or with suspected toxicity, surgical consultation should be obtained
53. In patients with ASUC, the choice between infliximab and cyclosporine should be based on provider experience with the agent, history of prior failure of immunomodulator or anti-TNF therapy, and serum albumin
54. Toxic megacolon, colonic perforation, severe refractory hemorrhage, and refractoriness to medical therapy are indications for surgery in patients with ASUC.
55. Infliximab and cyclosporine do not increase postoperative complications of colectomy and surgery should not be deferred based on this exposure
56. In patients with ASUC failing to adequately respond to IVCS by 3 d or to Infliximab induction, there are insufficient data to routinely recommend treatment with tofacitinib or upadacitinib
57. In patients with ASUC initiating infliximab, dose intensification should be considered for those patients with low serum albumin (<2.5 g/dL)

5-ASA, 5-aminosalicylic acid; ACG, American College of Gastroenterology; ASUC, acute severe ulcerative colitis; FC, fecal calprotectin; HRQoL, health-related quality of life; IVCS, intravenous corticosteroids; MMX, Multi Matrix System; PRO, patient reported outcome; TNF, tumor necrosis factor; UC, ulcerative colitis.

Interventions/Exposure: Below is a list of terms of risk factors and interventions used in these guidelines for the management of UC.

Diagnostic testing*: Clostridium difficile* testing, serological testing, colonoscopy/ sigmoidoscopy, intestinal ultrasounds, disease extent, clinical disease severity, endoscopic disease severity such as the Mayo Endoscopic Score (MES) or the UC Endoscopic Index of Severity (UCEIS), biomarkers use such as C-reactive protein (CRP) and fecal calprotectin (FC), treat-to-target such as endoscopic improvement to MES 0 or MES 1, disease monitoring, extraintestinal manifestations, and screening for coexistent anxiety and depressive disorders.

Treatment*:* Induction and maintenance therapy strategies, monotherapy or combination therapy, escalation of therapy, topical or systemic 5-ASA therapies,

tacrolimus suppositories, topical or systemic steroids, thiopurines, methotrexate, S1P receptor modulators (ozanimod and etrasimod), IL-12/23p40 antibody (ustekinumab), IL23p19 inhibitor (guselkumab, mirikizumab, or risankizumab), anti-integrin (vedolizumab), anti-TNF (infliximab, adalimumab, golimumab), JAK inhibitor (tofacitinib, or upadacitinib), therapeutic drug monitoring (TDM), pharmacologic deep vein thrombosis DVT prophylaxis, broad-spectrum antibiotics, total parenteral nutrition, IV corticosteroids, medical rescue therapy (infliximab, JAK inhibitors or cyclosporine), fecal microbiome transplant, curcumin/QingDai, alternative therapies, nonresponders, biosimilars, positioning of therapy, and surgeries.

Outcomes: Sustained and durable steroid-free remission, accompanied by appropriate psychosocial support, normal HRQoL and social functioning, prevention of morbidity including hospitalization and surgery, and prevention of cancer.

Data analysis: The GRADE methodology[1,2] uses 2 types of guideline recommendations, strong and conditional. With a *strong recommendation,* providers should recommend the intervention for most patients. A strong recommendation is usually accompanied by High or Moderate Level of Evidence from well-designed randomized controlled trials (RCTs) or RCTs with mild methodologic limitations. With a *conditional recommendation,* providers might suggest this therapy or diagnostic test, while other providers would not suggest this intervention in similar patients. Conditional recommendations are usually accompanied by Low quality or Very Low quality of evidence from studies without a comparator arm or placebo for comparison.

Funding: The American College of Gastroenterology, through the Practice Parameters Committee.

Results: Recommendations and key concepts can be found in **Tables 1 and 2**. Adult patients with UC should seek appropriate testing at presentation, ruling out infectious etiologies especially *C. difficile*. Disease severity and disease extent are important disease characteristics to be established for each patient and at each clinical encounter. These can be of clinical nature in addition to biochemical markers such as CRP and FC, and endoscopic and histologic characteristics. Once the disease has been established and well characterized, physicians and APPs, and patients should aim to get to an informed clinical and surgical therapy plan ranging from topical and systemic 5-ASA agents to advanced therapy. Patient are to be

monitored regularly, especially when starting a new therapy (ideally at 8 weeks) to assess for clinical remission and endoscopic remission. Our current treat-to-target is endoscopic remission. Though it has been associated with some improvement of clinical outcomes, histological remission lacks enough evidence to be a favored target-to-treat at the moment.

There are multiple approved therapies for maintenance in UC patients, with different routes of administration. The current guidelines provide evidence and data on the different levels of remission a patient can achieve for each one. Of note, biosimilars for anti-TNF agents and ustekinumab are acceptable alternatives for the originator therapy without any delays in treatment.

The hospitalized UC patient with ASUC should be tested for *C. difficile* infection at presentation. Chemical DVT prophylaxis and initiation of IV corticosteroids are standards of care. Patients should be adequately monitored for clinical improvement prior to initiating rescue therapy. **Figure 1** describes an algorithm to guide the management of the hospitalized patient with ASUC.

COMMENTARY

Why Is This Important?

There are 1.3 million individuals living in the United States with UC[3]. The disease is chronic and complex, affecting the large bowel and causes significant morbidity. These updated clinical guideline help provide guidance to gastroenterological physicians and APPs managing UC patients in different clinical settings, especially in areas where access to IBD-trained physicians and APPs or dedicated centers may be limited.

Key Study Findings

There is a re-instated emphasis on integrating all data available when managing UC patients: clinical, endoscopic, histological and biochemical. We currently have eight advanced therapies that are approved to get patients off steroids and in remission.

Ongoing monitoring of patients is critical, especially when initiating a new therapy, with our current treat-to-target being clinical and endoscopic remission.

Caution

The major limitation is the paucity of head-to-head trials that could help position our advanced therapies.

My Practice

My practice aligns with the new ACG clinical guidelines for the management

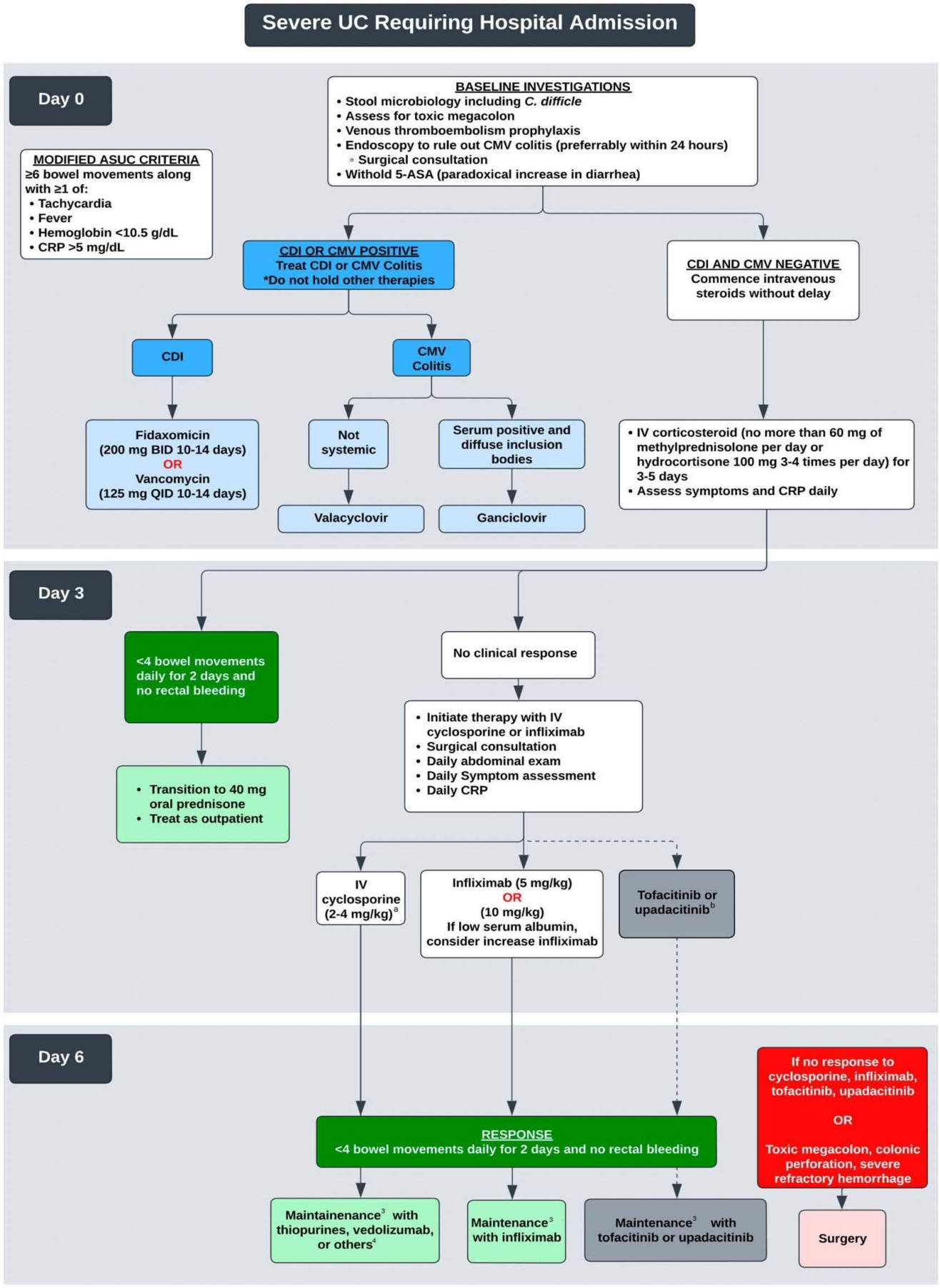

Figure 1. Algorithm for the management of hospitalized patients with acute severe UC. 5-ASA, 5-aminosalicylic acid; ASUC, acute severe ulcerative colitis; BID, twice daily; CDI, *Clostridioides difficile* infection; CMV, cytomegalovirus; CRP, C-reactive protein; IV, intravenous; QID, 4 times a day; UC, ulcerative colitis. Access this figure in the guideline.

of UC adult patients. My approach is to continuously integrate the dynamic changes happening with my patients and provide them with treatment plans that are tailored to them. I attempt to remain updated on their symptoms, most recent endoscopic and histological findings, biochemical markers and new comorbidities that are being diagnosed with. When appropriate, I present them with the available therapeutic plans that would fit their medical and personal needs. For example, patients with non-flexible schedules such as workers with non-traditional shifts might choose a subcutaneous injection that they can do at their own schedule, rather than a scheduled infusion. Again, these are all dynamic and are subject to change, hence I make sure that the therapies provided are the most beneficial to them at their most recent encounter, based on informed-consent and patient-centered decision making.

In addition, my patients and I are fortunate that my practice is part of a large multidisciplinary center where we have easy access to colorectal surgery, nutrition support and behavioral health. The new ACG guidelines also put added emphasis on involving these consultants at an earlier stage to help prevent any added comorbidities to UC patients.

For Future Research

New evidence is needed to investigate the benefit of integrating intestinal ultrasound in the management of UC. In addition, there is a possible push to achieve histological remission as a target-to-treat. In addition, researchers can focus on creating new studies with higher quality of evidence to validate the key concepts proposed here and make them into guidelines recommendations.

Conflict of Interest

Dr. Al Kazzi reports no relevant conflicts of interest.

Abbreviations

ASUC, acute severe ulcerative colitis; CRP, C-reactive protein; FC, fecal calprotectin; HRQoL, health-related quality of life; MES, Mayo Endoscopic Score ; PICO, Patient Intervention Comparison and Outcomes; UC, ulcerative colitis.

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EVIDENCE-BASED GI
AN ACG PUBLICATION

All Exam ADR Performs Similarly to Screening ADR in Predicting Post Colonoscopy Colorectal

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COLON

This summary reviews Anderson JC, Rex DK, Mackenzie TA, Hisey W, Robinson CM, Butterly LF. Adenoma detection rates calculated using all examinations are associated with lower risk for postcolonoscopy colorectal cancer: Data from the New Hampshire Colonoscopy Registry. Am J Gastroenterol. 2025. doi: 10.14309/ajg.0000000000003488.

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Keywords: adenomas; colonoscopy; detection; metrics

STRUCTURED ABSTRACT

Question: The goal was to examine the association between post-colonoscopy colorectal cancer (PCCRC) risk and an adenoma detection rate (ADR) which was calculated using exams with all indications, as compared to ADR restricted to only screening exams.

Design: Retrospective analysis of data from the New Hampshire Colonoscopy Registry (NHCR) which is a prospective statewide colonoscopy registry.

Setting: Endoscopy centers across New Hampshire, USA.

Patients: Analysis included NHCR patients with an index exam and at least 1 follow-up event 6 months or longer after the colonoscopy, either a colonoscopy or a CRC diagnosis.

Exposure: The exposure variable was endoscopist-specific ADR (ADR-A), calculated for all indications, divided into quintiles. The ADR-A was also compared to a screening ADR (ADR-S).

ADR-A. The proportion of all colonoscopies in patients 45 years or older with an adequate bowel preparation performed by an endoscopist regardless of indication with at least one adenoma divided by the total number of colonoscopies in patients 45 years or older with an adequate bowel preparation performed by that endoscopist regardless of indications.

ADR-S. The proportion of screening colonoscopies in patients 45 years or older with an adequate bowel preparation performed by an endoscopist with at least one adenoma divided by the total number of screening colonoscopies in patients 45 years or older with an adequate bowel preparation performed by that endoscopist.

Outcomes: The primary outcome, PCCRC was any CRC diagnosed ≥ 6 months after an index exam.

Data Analysis: Cox regression was used to model the hazard of PCCRC on ADR, controlling for age, sex, and other covariates.

Funding: Division of Cancer Prevention, National Cancer Institute, 5R01CA243449, Optimizing colorectal cancer prevention: a multi-disciplinary, population-based investigation of serrated polyps using risk prediction and modeling; Grant Recipient: Lynn F. Butterly, M.D. and ACG 2023 clinical research grant (Anderson).

Results: In 32,535 patients, a lower hazard for PCCRC (n=178) was observed for ADR-A's > 23%, as compared to ADR-A's <23% (Reference) (23%-<29%: hazard ratio [HR] 0.56, 95% confidence interval [CI]: 0.36-0.87; 29%- <34%: HR 0.60, 95% CI: 0.38-0.94; 34%-<44%: HR 0.43, 95% CI: 0.29-0.65; and ≥44%: HR 0.32, 95% CI: 0.16-0.63) [**Table 1**]. The highest quartile of ADR-A (42%+) (HR=0.41 95% CI:0.23-0.75) had a similar protection from PCCRC as the highest quartile of ADR-S (35%+) (HR=0.38 95% CI:0.21-0.70) [**Table 2**]. We also observed 95% CIs for ADR's were 28% narrower (median=0.72; IQR:0.10) for endoscopists when using ADR-A versus ADR-S.

	ADR-A				
	< 23	23 - < 29	29 - < 34	34 - < 44	44 and higher
N	4,130	5,507	4,668	13,399	4,831
PCCRC (N)	47	35	31	54	11
PCCRC (%)*	1.14%	0.64%	0.66%	0.40%	0.23%
HR (95% CI)	1.0 (Reference)	0.56 (0.36-0.87)	0.60 (0.38-0.94)	0.43 (0.29-0.65)	0.32 (0.16-0.63)

Table 1. Unadjusted risks and adjusted hazard ratios for post colonoscopy colorectal cancer (PCCRC) as stratified by quintiles of endoscopist all exam adenoma detection rates (ADR-A).

*$P < 0.001$ (Chi Square for trend). CI, confidence interval; HR, hazard ratio.

ADR-A				
	< 25	25 - < 34	34 - < 42	42+
N	6,243	8,062	11,690	6,540
PCCRC (N)	59	54	50	15
PCCRC (%)*	0.95%	0.67%	0.43%	0.23%
HR (95% CI)	1.0 (Reference)	0.85 (0.58-1.24)	0.59 (0.40-0.87)	0.41 (0.23-0.75)
ADR-S				
	< 21	21 - < 29	29 - < 35	35+
N	6,050	12,020	7,316	7,149
PCCRC (N)	56	84	23	15
PCCRC (%)*	0.93%	0.70%	0.31%	0.21%
HR (95% CI)	1.0 (Reference)	0.81 (0.58-1.14)	0.47 (0.28-0.77)	0.38 (0.21-0.70)

Table 2. Unadjusted risks and adjusted hazard ratios for post colonoscopy colorectal cancer by quartiles of endoscopist adenoma detection rates.

*$P < 0.001$ (Chi Square for trend). ADR-A, endoscopist adenoma detection rate; ADR-S, surveillance adenoma detection rate; CI, confidence interval; HR, hazard ratio.

COMMENTARY

Why Is This Important?

The adenoma detection rate (ADR) is an important endoscopist-specific quality measure. Higher ADRs have been shown to be associated with lower risks for post colonoscopy colorectal cancer (CRC).[1-3] ADR has been calculated using only screening colonoscopy.[4,5] The recommended ADR benchmark, which had been 25% for screening colonoscopy, was recently raised to 35%

in conjunction with lowering the age to begin measurement to 45 years and expanding the procedure indications to be included in ADR measurement.[6-8]

These data validate the use of all-exam ADR as a quality measure which can have many upstream benefits. Using all-exam ADR could decrease that likelihood of an endoscopist "gaming" the system by changing the indication depending upon exam findings. For example, an endoscopist could be tempted to change the indication of an exam from diagnostic to screening if an adenoma is found.[9] An all-exam ADR calculation may also be simpler for endoscopists since it eliminates the need for differentiating by the exam indication. Finally, the use of ADR-A increases the volume of colonoscopies for each endoscopist, allowing for a more precise measurement of the endoscopist's detection rate. These are the major reasons why the recent ACG/ASGE quality metric guidelines endorsed the use of an all-exam ADR.[6]

With respect to ADR-A goals for endoscopists, these data suggest that higher ADR-As are associated with lower PCCRC risks. The current benchmark as per the recent ACG/ASGE latest recommendations on quality indicators for colonoscopy is 35%. This benchmark falls within the 4th quintile of ADR-A which is associated with a lower HR than the lowest quintile. This cutoff of 35% was also the optimal point on the ROC curve. While the lowest HR was observed for the highest quintile of an ADR-A of 44% or higher, this should be an aspirational target.

Key Study Findings

These data demonstrating lower PCCRC risk in exams performed by endoscopists with higher ADR's calculated with all exams help to validate ADR-A as a quality measure. ADR-A may also increase precision of the calculated ADR. Endoscopists should strive for a higher ADR-A with 44% as an aspirational target.

Caution

The low racial diversity in NH may decrease the generalizability of the findings. Thus, more data are needed in other more racially diverse populations. In addition, since surveillance exams are associated with higher adenoma detection, practices with a higher mix of repeat colonoscopies may have higher ADRs.[10]

My Practice

An important factor in optimizing adenoma detection is the bowel preparation. All of my patients have a split bowel preparation.[11] When performing a colonoscopy, I make the assumption that the patient has an adenoma that needs to be detected. Thus, I carefully interrogate and wash every fold, adequately distending the lumen, utilizing an adequate withdrawal time, typically of 8 minutes or longer. I also reintubate the proximal colon as highlighted in the recent ACG/ASGE

recommendations.[6,12] In addition, in our endoscopy unit we track our ADR and SDRs as well as quality of bowel preparation and completion rates, ensuring that we are meeting established benchmarks.[6,11,12] Although, current benchmark as per the recent ACG/ASGE latest recommendations on quality indicators for colonoscopy is 35%, I try to achieve an ADR-A of 44% or greater. In addition, our NHCR data suggest that even if endoscopists achieve an adequate ADR, they could still have a low serrated detection rate.[13-15] Therefore, I also make sure that I have an SSPDR of 6% or greater as suggested by our NHCR data.[15]

For Future Research

These data should be validated in other populations.

Conflict of Interest

Dr Anderson has no financial conflict of interest.

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EVIDENCE-BASED GI
AN ACG PUBLICATION

Cold EMR for Large Colon Polyps

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Associate Editor

This summary reviews Pohl H, Rex DK, Barber J, *et al.* Cold snare endoscopic resection for large colon polyps: A randomised trial. *Gut* Published Online First: 19 May 2025. doi: 10.1136/gutjnl-2025-335075.

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Keywords: Colon, polyps, EMR, cold snare, hot snare, RCT

STRUCTURED ABSTRACT

Question: Is cold snare endoscopic mucosal resection (EMR) safer and more effective than hot EMR for removing large (≥ 20 mm) non-pedunculated colorectal polyps ?

Design: Multicenter, randomized controlled 2×2 factorial trial comparing cold vs hot EMR.

Setting: Fifteen centers across the US and Canada.

Patients: Adults aged 18 years or older who presented for resection of large (≥20 mm) non-pedunculated colon polyp. 660 patients undergoing EMR for large non-pedunculated colorectal polyps. Patients were excluded if they had inflammatory bowel disease, severe comorbidities (American Society of Anesthesiologists score >3), or a coagulopathy (international normalized ratio (INR)

>1.5 or platelets <50). Pedunculated polyps (Paris classification IP), ulcerated polyps (Paris classification III) or those with suspected deep submucosal invasive cancer based on morphological assessment were also excluded.

Exposure/Intervention: Patients were randomized to either cold snare EMR (without the use of electrocautery) or hot snare EMR (with the use of electrocautery), and to 1 of 2 submucosal injection solutions, either viscous solution or normal saline. Cold EMR permitted crossover if complete resection wasn't feasible. Hot EMR required margin ablation and defect closure in the proximal colon. Type of resection (cold vs hot EMR) was the primary intervention and type of submucosal injectate was the secondary and exploratory intervention. Participants were assigned to one of four study groups (hot EMR + viscous solution, hot EMR + saline, cold EMR + viscous solution, cold EMR + saline).

Outcomes: The primary outcomes was rate of severe adverse events (SAEs), and the secondary outcome was recurrence at first surveillance colonoscopy (SC1). Recurrence was defined as a resection site that harbored any visible or biopsy-proven neoplastic polyp tissue at SC1 following prior complete polyp resection. SAEs were also assessed by polyp location (proximal vs distal) and by use of antithrombotic medications. Other factors assessed included whether recurrence was affected by polyp size (20–29 mm vs >30 mm), polyp histology (serrated vs adenomatous), polyp morphology (flat or Paris 2a vs sessile or any Paris 1s), and polyp height.

Data Analysis: Intention-to-treat (ITT), per-protocol, and complier average causal effect (CACE) analyses were conducted. Multivariable models were also adjusted for baseline differences and clustering.

Funding: Steris and Cosmo Pharmaceuticals supported the study but had no role in design, data collection, or analysis.

Results: Overall, 660 patients were randomized and analyzed, including 336 patients with 371 polyps in the cold EMR group and 324 patients with 343 polyps in the hot EMR group. ITT analysis showed SAEs in 2.1% of patients in the cold EMR group vs. 4.3% in the hot EMR ($P = 0.10$) group. No perforations occurred in the cold EMR group compared with 1.6% in the hot EMR group ($P = 0.028$). Recurrence was significantly higher in the cold EMR group (28% vs 14%, $P<0.001$). Recurrence was not significantly different for 20–29 mm polyps (18.6%

vs 13.4%, $P = 0.24$) and for sessile serrated lesions (14.1% vs 8.5%, $P = 0.33$). In the cold EMR group, 14.6% of polyps were removed by hot EMR, and in the hot EMR group, 14.0% were removed by cold EMR (**Table 1**). There was no significant difference in SAEs by type of submucosal injection agent.

Outcome	Cold EMR	Hot EMR	*P*-value
Intention-to-Treat Analysis			
Severe Adverse Events	2.1%	4.3%	0.10
Perforations	0%	1.6%	0.028
Recurrence (all polyps)	28%	14%	<0.001
Recurrence (20–29 mm polyps)	18.6%	13.4%	0.24
Recurrence (sessile serrated lesions)	14.1%	8.5%	0.33
Per-Protocol Analysis			
Severe Adverse Events	1.4%	5.0%	0.017

Table 1. Cold EMR vs hot EMR outcomes.

COMMENTARY

Why Is This Important?

Endoscopic resection is central to colorectal cancer prevention. Larger colon polyps have higher risk of harboring advanced dysplasia. Cold EMR is hypothesized to reduce adverse events, especially bleeding and perforation, but limited high-quality comparative data exist for large polyps ≥ 20 mm.

Key Study Findings

This randomized trial comparing cold and hot EMR for resection of large (≥20 mm) colorectal polyps showed that the overall rate of severe adverse events was not significantly different between the 2 groups (2.1% vs. 4.3%).

However, cold EMR was associated with a 2-fold higher recurrence rate (28% vs. 14%). Recurrence was not significantly different for 20–29 mm polyps (18.6% vs 13.4%, $P = 0.24$) and for sessile serrated lesions (14.1% vs 8.5%, $P = 0.33$). These findings suggest that cold EMR should not be universally applied to all ≥ 20 mm polyps but may be suitable for sessile serrated lesions, adenomatous lesions measuring 20-29 mm and carefully selected lesions, particularly in scenarios where minimizing procedural risk is a clinical priority.

Caution

The trial had by a high crossover rate of 14% in both directions, which may have

influenced the ITT analysis. Despite efforts to achieve wide resection margins, cold EMR was associated with high recurrence rates across all study sites. Furthermore, the wide variability in recurrence rates among participating centers raises concerns about inconsistencies in technique and highlights the need for standardized training and procedural protocols for cold EMR.

My Practice

My practice for managing large (≥ 20 mm) non-pedunculated colorectal polyps is individualized to the lesion. This includes evaluating the polyp morphology and histology.[1] The Paris classification is typically used to evaluate the polyp morphology. The Paris classification characterizes lesions in the gastrointestinal tract into three main categories based on their morphologic features, while for evaluating polyp histology, the Narrow Band Imaging Colorectal Endoscopic (NICE) classification is used. The NICE classification can be used to predict polyp histology based on surface features into sessile serrated lesions (SSLs) or hyperplastic polyps, adenomatous polyps or polyps concerning for deep submucosal invasion. For polyps with optical diagnosis suggestive of SSL histology, I prefer cold EMR given its favorable safety profile and similar recurrence rate for SSLs in comparison to hot EMR.[2-5] For large polyps, where optical diagnosis is suggestive of adenomatous histology, I prefer hot EMR or underwater EMR.[6] This approach is based on lower rate of recurrence for adenomatous polyps with hot EMR as seen in this trial and other recent randomized trials.[3-5]

In cases, where there are features suggestive of advanced histology such as high grade dysplasia or submucosal invasive cancer (non-granular laterally spreading tumors with ulceration, depression or nodular component, NICE type 3 lesions, Kudo pit pattern $V_{N,}$ JNET2b or Paris classification 0-IIc), I prefer en-bloc resection with hot EMR if possible or use endoscopic submucosal dissection (ESD) or endoscopic full-thickness resection (EFTR). Lastly, I also use cold snare EMR in patients who are at high risk of adverse events such as those on systemic anti-coagulation, advanced liver or kidney disease and those in which perforation maybe challenging to manage (difficult or unstable position in the colon).

For Future Research

Future research is needed to compare different EMR modalities for various types of polyps based on size and histology. In addition, the role of margin and base ablation with cold EMR needs to be studied. Lastly, standardization of cold EMR technique is need to minimize recurrence associated with cold EMR.

Conflict of Interest

Dr. Bilal is a consultant for Boston Scientific, Steris Endoscopy, Aspero Medical and Cook Medical.

Abbreviations

EMR, endoscopic mucosal resection; INR, international normalized ratio; ITT, intention-to-treat; SAE, severe adverse events; SSL, sessile serrated lesions.

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