Patient Preferences for Colon Imaging for Cancer Detection

Bosworth HB, Rockey DC, Paulson EK, et al. Prospective comparison of patient experience with colon imaging tests. Am J Med 2006;119:791–9.

Study Overview

Objective. To measure patient experiences and preferences regarding 3 colon imaging procedures (air contrast barium enema, colonoscopy, and computed tomographic [CT] colonography).

Design. Multicenter, prospective cohort study.

Setting and participants. 614 patients with either a positive fecal occult blood test, bright red blood per rectum, iron deficiency anemia, or a family history of colorectal cancer were included. Each patient was enrolled in a prospective trial that involved sequential performance of air contrast barium enema, CT colonography, and colonoscopy. After each test, patients completed a questionnaire assessing their perception of pain, worry, difficulty following directions, difficulties in testing preparations, anxiety of obtaining tests, comfort with procedures, levels of embarrassment, willingness to repeat the test, level of respect, tiredness from the procedure, level of inconvenience, and overall satisfaction. A summary questionnaire was administered 24 to 72 hours after completion of the test series that asked patients to choose which procedure was most associated with each of the aforementioned experiences.

Main outcome measure. The primary outcome measure was patients' experience with colon imaging tests as measured by an 11-item questionnaire.

Main results. 581 (95%) patients completed all surveys. Air contrast barium enema appeared to be the least favored test; it was rated as the most painful, the most embarrassing, and the least convenient, ultimately resulting in the lowest overall rating on patient satisfaction and willingness to repeat the procedure. Colonoscopy was rated as the least painful and embarrassing procedure, and this remained the consensus per results of the summary survey. Despite being more worried about colonoscopy and feeling more worn out after the procedure, patients reported the highest overall satisfaction and willingness to repeat this test. There were no differences among the 3 procedures in difficulty following directions for the procedure and the test preparation process. CT colonography produced an intermediate degree of pain and embarrassment, as well as overall rating on patient satisfaction and willingness to repeat. Patients reported the lowest level of anxiety with CT colonography.

Conclusion. Patients preferred colonoscopy over air contrast barium enema and CT colonography, seemingly related to degree of pain and embarrassment experienced.

Commentary

Colorectal cancer is currently the second leading cause of cancer death, affecting 6% of the population during their lifetime. Several effective screening modalities exist that reduce colorectal cancer mortality, including annual fecal occult blood testing, flexible sigmoidoscopy, barium enema, and colonoscopy. Despite the demonstrated effectiveness of colorectal cancer screening, a substantial proportion of eligible patients remain unscreened [1]. Patient refusal, particularly stemming from fear and embarrassment, is often cited by clinicians as a reason for low screening rates [2]. Virtual colonoscopy, or CT colonography, is among the newer screening modalities currently being investigated.

In the context of ongoing efforts to increase colorectal cancer screening rates, it is relevant to understand patient preferences regarding use of the available screening modalities. The current study by Bosworth et al provides extremely important insight into patient experiences/preferences regarding currently available colon imaging studies. In addition to using rigorously developed survey instruments, the investigators were able to evaluat patients who consecutively underwent all 3 procedures. Patients strongly preferred colonoscopy, finding it less painful and embarrassing compared with air contrast barium enema and CT colonography. Other potential mediators of patient preference, such as difficulty with the bowel preparation or difficulty understanding directions for the procedure, were not different among procedures.

There are significant limitations to this study. These patients were enrolled in a clinical trial and were being evaluated for high-risk conditions, such as rectal bleeding, and it is not entirely clear if the documented preferences readily extend to patients referred for primary screening programs. In addition, barium enema is increasingly falling out of favor due to its low sensitivity for detecting colorectal cancer [3]; therefore, comparisons of this procedure with colonoscopy are increas-

ingly less relevant. Future studies in this area would benefit from comparisons of currently recommended procedures, such as flexible sigmoidoscopy and colonoscopy.

Applications for Clinical Practice

Improving rates of colorectal cancer screening is a critical step to reducing mortality rates. This study provides evidence that patients prefer colonoscopy over CT colonography and air contrast barium enema. Clinicians can use this information in their discussions with patients regarding the various colorectal cancer screening modalities.

—Review by Thomas D. Sequist, MD, MPH

References

1. Increased use of colorectal cancer tests–United States, 2002 and 2004. MMWR Morb Mortal Wkly Rep 2006;55:308–11.
2. Klabunde CN, Vernon SW, Nadel MR, et al. Barriers to colorectal cancer screening: a comparison of reports from primary care physicians and average-risk adults. Med Care 2005;43: 939–44.
3. Rockey DC, Paulson E, Niedzwiecki D, et al. Analysis of air contrast barium enema, computed tomographic colonography, and colonoscopy: prospective comparison. Lancet 2005;365:305–11.