Symptoms No Guide on Who Needs Colonoscopy

BY DAVID MONAGAN

LONDON — Clinical symptoms are of little value in the selection of appropriate patients for colonoscopy for the purpose of early detection of colorectal cancer, despite common beliefs to the contrary.

These were the disappointing results of a large Australian retrospective analysis presented at the 13th World Congress of Gastroenterology meeting.

The early warning signs for colorectal cancer are well known—recurrent abdominal pain, rectal bleeding or pain or excretion of mucus, or radical alteration in bowel habits, among other symptoms. But most of these symptoms have little predictive value and, when considered in isolation, these symptoms may lead to thousands of unnecessary colonoscopies at great cost, according to Dr. Peter Katelaris, one of the lead researchers of the CRISP study (Colorectal Research in Symptom Prediction) performed at the Concord Repatriation General Hospital in Sydney.

"Most symptoms are not predictive of bowel cancer and are a poor guide to the best use of colonoscopy," Dr. Katelaris said. "Basic screening tests have much higher predictive value of colorectal cancer than [do] patient symptoms. Perhaps it is time for a reappraisal," said Dr. Katelaris, clinical associate professor in the department of gastroenterology at the University of Sydney.

The CRISP analysis of 5,577 patients compared their self-reported symptoms on a presenting questionnaire and their medical histories against their diagnosis based on colonoscopy. A total of 159 patients (3%) were confirmed to have cancer. Yet a similar population of the same median age would generally have had a 2% rate of colon cancer. "We are talking about an absolute increase of 1%, which is not very useful for interventions on this scale. We're wasting a lot of colonoscopy resources on this," Dr. Katelaris said.

Only one predictive factor stood out: patient age. Those aged 70 years and older showed an 8.6% increased likelihood of a cancer diagnosis upon colonoscopy. A history of previously diagnosed rectal polyps or having undergone colonoscopy in the preceding 10 years also indicated increased risk of a colon cancer diagnosis. Heavy smoking also slightly increased the likelihood of a cancer diagnosis.

But the most common triggers for colonoscopy referral—abdominal pain, rectal bleeding, and related bowel irregularities—showed almost no correlation with histologic findings, unless symptoms had persisted for months. In women, these symptoms had low predictive value for a cancer diagnosis.

Dr. Katelaris noted that 20% of those patients diagnosed with cancer upon colonoscopy in this cohort showed no symptoms whatsoever.

"Colonoscopy to detect cancer need not be done for many bowel symptoms [that] are currently considered to be indications," they said. ■

Colonoscopy Lowers Risk of Left-Sided Advanced Lesions

VITALS

Major Finding: Adults undergoing screening colonoscopy within 10 years of a previous colonoscopy had a significantly lower risk of having a left-sided advanced neoplasm detected, but their risk of right-sided neoplasms was not reduced.

Data Source: A population-based study of 3,287 adults aged 55 and older presenting for a screening colonoscopy at 33 German gastroenterology practices between May 1, 2005, and Dec. 31, 2007.

Disclosures: Study partly supported by the Central Research Institute of Ambulatory Health Care in Germany (Berlin).

BY ELIZABETH MECHCATIE

The risk of left-sided advanced colorectal neoplasms was reduced by 67% within 10 years of having a screening colonoscopy, but there was no reduction in risk of right-sided neoplasms in a German community-based study of more than 3,000 people.

"Although a strong protective effect of colonoscopy from colorectal neoplasms has been established through previous studies, our results add to the evidence that this effect is much stronger in, if not confined to, the left colon and rectum, at least in the community setting," concluded Dr. Hermann Brenner and his associates of the division of clinical epidemiology and aging research at the German Cancer Research Center, Heidelberg.

The lack of an effect in the right colon could "be overcome to some extent by enhanced training of endoscopists, by enhanced measures of quality assurance, and by development of technology that enhances inspection of the right colon," they added (J. Natl. Cancer Inst. 2009;102:1-7).

The study included 3,287 people older than 55 years undergoing a screening colonoscopy at 33 gastroenterology practices in Saarland (Germany) between May 1, 2005, and Dec. 31, 2007. The researchers compared the prevalence of colorectal cancer and advanced adenomas (combined as "advanced colorectal neoplasm") among those who reported having had a colonoscopy within the previous decade to the prevalence among those who said they had not had a colonoscopy previously.

An advanced colorectal neoplasm was found in 308 of the 2,701 participants (11.4%) who had not had a colonoscopy, compared with 36 of the 586 participants (6.1%) who had had a colonoscopy 1-10 years earlier. One case of colorectal cancer occurred in those who had undergone colonoscopy, and 41 cases in those who had not.

After adjustment for age, sex, and family history of colorectal cancer, the prevalence ratio of colorectal cancer was 0.52 overall. "However, in site-specific analyses, previous colonoscopy was strongly and inversely associated with prevalence of advanced neoplasia in the left-sided colon and rectum but not with prevalence of advanced neoplasia in the right-sided colon," they reported.

The adjusted prevalence ratios were as follows: 0.99 for the cecum and ascending colon, 1.21 for the hepatic flexure and transverse colon, 0.36 for the splenic flexure and descending colon, 0.29 for the sigmoid colon, and 0.07 for the rectum.

Possible reasons for the lack of an effect of previous colonoscopy on the prevalence of right-sided neoplasms include incomplete colonoscopies or worse bowel preparation in the right colon. There also could be a higher proportion of adenomas in the right colon that are sessile and flat, and therefore easier to miss.

The results were similar to the odds ratio of deaths in a community-based study in Canada that used administrative claims data (Ann. Intern. Med. 2009;150:1-8). In that study, having a colonoscopy within 6 months of a diagnosis was associated with about a 40% lower risk of colorectal cancer mortality. This benefit also was "restricted essentially to left-sided colorectal cancers."

In an editorial, the lead author of that study, Dr. Nancy Baxter of St. Michael's Hospital, Toronto, referred to some limitations of the German study, but pointed out that the results were "remarkably consistent with a number of recently published studies, all of which demonstrate the overall effectiveness of colonoscopy for reducing colorectal cancer incidence and mortality, but with a marked variance in effectiveness for proximal and distal cancers" (J. Natl. Cancer Inst. 2009;102:70-1). ■

Results Are a Cause for Concern

MY TAKE

We must be concerned about these results because several studies in several settings have reported that protection from colonoscopy in the right colon is not as good as it is in the left colon, and we don't understand the reasons behind these differences. The only study done in the United States was a study of the California MediCal population; it showed the same trend, but differed from the German and Canadian studies in that there was still some protection in the right colon (about 60% in men; only about 20% in women).

There are two categories of explanations for poor right colon protection from colonoscopy. One is that differing biologic factors between right and left colon cancers prevent us from achieving effective cancer prevention. We know that microsatellite instability (MSI) is more common in right-sided cancers and in cancers occurring after colonoscopy, or so-called interval cancers. MSI can cause tumors to go through the polyp-cancer sequence faster. Similarly, the CpG island methylator phenotype (CIMP) is more common in interval cancers. The second category of explanations is technical issues in colonoscopy performance that may affect right colon detection, including failed cecal intubation, poor preparation (which affects the right colon preferentially), and flat lesions and serrated polyps, both of which are more common in the right colon and easier to miss at colonoscopy, compared with traditional adenomas.

My bias is that we can probably correct a significant portion of this problem by improving colonoscopy performance. First, everyone should use split-dose bowel preparations. There are now 10 randomized, controlled trials showing that splitting the prep—giving half of it on the day of the procedure—improves the preparation in the ascending colon. Second, we need all colonoscopists to photodocument the cecum. Finally, increased awareness and perhaps special training are needed to improve detection of flat and serrated polyps.

We have a lot of information that adenoma detection is operator-dependent and varies dramatically between endoscopists. We need information about whether interval cancers are clustering among individual endoscopists, as this would provide a strong hint about whether my bias that we can fix this problem is correct. We must reduce the operator dependency of colonoscopy. It's not good when a procedure that is so important for prevention of a common cancer is operator dependent. It's a flaw in the strategy.

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