Colonoscopy Lowers Risk of Left-Sided Advanced Lesions

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).

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 enhanced training of endoscopists, by enhancing awareness and personal responsibilities—showed almost no correlation with histologic findings, unless symptoms had persisted for months. In women, these symptoms had low and predictive value for a cancer diagnosis.

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

Results Are a Cause for Concern

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 the differing biological 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 poly-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 colon 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 Take

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.

Dr. Douglas K. Rex is distinguished professor of medicine at Indiana University, Indianapolis.