

Can a Blood Test Help Predict Who Is at Risk for Colorectal Cancer?

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The full report is titled “C-Reactive Protein Levels Are Not Associated with Increased Risk for Colorectal Cancer in Women.” It is in the 15 March 2005 issue of *Annals of Internal Medicine* (volume 142, pages 425-432). The authors are S.M. Zhang, J.E. Buring, I.-M. Lee, N.R. Cook, and P.M. Ridker.

What is the problem and what is known about it so far?

Colorectal cancer is a leading cause of cancer and of death from cancer in the United States. Risk factors include physical inactivity, a low-fiber diet, and having a family member with this type of cancer. Some data suggest that low-grade inflammation may also increase the risk for colorectal cancer. C-reactive protein (CRP) is a protein in the blood that increases when inflammation is present in the body. If inflammation increases a person’s risk for developing colorectal cancer, higher CRP levels might be a sign of that higher risk.

Why did the researchers do this particular study?

To see whether CRP levels in the blood predict a person’s risk for developing colorectal cancer.

Who was studied?

27,913 women health professionals 45 years of age or older. None had ever had cancer or heart disease. All were participants in the Women’s Health Study, a trial begun in 1993 to see whether aspirin and vitamin E prevent cancer and heart disease.

How was the study done?

The researchers took blood samples for CRP testing at the beginning of the study. They sent questionnaires to participants every year for the next 10 years. The questionnaires asked women about their health and whether they had developed colorectal cancer in the preceding year. The researchers then compared the women’s risk for developing colorectal cancer according to whether they had had a low, intermediate, or high CRP level.

What did the researchers find?

Women reported 169 instances of colorectal cancer, which were confirmed by review of medical records. Women with low CRP levels were just as likely as those with higher levels to develop colorectal cancer. CRP levels also did not predict which women had smaller tumors and which had larger tumors or more advanced cancer.

What are the limitations of the study?

The participants were female health professionals. We do not know whether men or patients with chronic conditions would have similar findings. A single baseline CRP measurement may be an imperfect marker of inflammation. Relying on a woman’s report of cancer rather than routinely using tests to detect lesions may have missed some cases of cancer.

What are the implications of the study?

Higher CRP levels probably do not predict higher risk for colorectal cancer in healthy women. The finding implies that inflammation may not be a significant risk factor for colorectal cancer. Doctors will need to find ways other than measuring CRP levels to predict who is likely to develop colorectal cancer.