

Virtual colonoscopy as good as other colon cancer screening methods

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CT colonography (CTC), known as virtual colonoscopy, is as accurate at screening for colorectal cancers and pre-cancerous polyps as conventional colonoscopy, the current screening standard, according to the National CT Colonography Trial, a nationwide multi-center study that included the San Francisco VA Medical Center.

"This is a landmark study," says study co-author Judy Yee, MD, chief of radiology at SFVAMC and professor and vice-chair of radiology at the University of California, San Francisco. "It demonstrates that CTC is a practical alternative to other, more invasive methods of colon cancer screening. The hope is that these results will encourage more health care payers to cover screening CT colonography."

The study appears in the September 18, 2008 issue of the *New England Journal of Medicine*.

SFVAMC was one of 15 institutions participating in the trial, which was the largest to date comparing CTC with conventional colonoscopy in asymptomatic patients. The lead author is C. Daniel Johnson, MD, MMM, of Mayo Clinic Arizona in Scottsdale, Arizona.

Colorectal cancer is the third most common cancer and the second leading cause of cancer death in the United States — yet screening rates are low, "most likely because current screening methods are invasive and unpleasant," says Yee.

"However, almost all colon cancers are essentially preventable," she notes. "With lung or breast cancer screening, you look for the cancer itself. In contrast, colon cancer screening identifies precancerous lesions, which are removed before they become cancer. So screening is absolutely essential."

Yee, a pioneering researcher in CTC, is the author of "Virtual Colonoscopy," a textbook published earlier this year that has quickly become the standard reference work on the topic. She has also trained hundreds of radiologists from around the world to perform and interpret CT colonography through the UCSF Radiology Department Postgraduate Program.

In the trial, 2,531 patients age 50 and older underwent both CTC and conventional colonoscopy on the same day. The results of the two tests were then compared. Among all patients, CTC correctly identified adenomas — precancerous polyps — and carcinomas with 84 percent accuracy. On a per-patient basis, CTC was 90 percent accurate in identifying large suspicious growths. These rates were comparable with that of conventional colonoscopy.

Overall, CTC identified 30 significant pre-cancerous lesions in 27 patients that were not detected by conventional colonoscopy, while missing one lesion found conventionally.

"These patients had no cancer symptoms," stressed Yee. "They were simply healthy older adults, typical of people who should be screened for colon cancer according to current screening standards."

Yee explains that CTC uses safe, noninvasive x-ray technology to create detailed two- and three-dimensional pictures of the colon and surrounding organs in less than one minute, in contrast to conventional colonoscopy, which uses a six-foot long scope inserted in the patient's

colon.

"With the conventional method, there's a higher risk of perforation — poking a hole in the colon wall — and infection," says Yee. "In addition, the patient must undergo sedation, which takes them out of action for an entire day, along with the person who must accompany them to the procedure and drive them home. This adds significantly to cost. With CTC, the patient can be in and out within 30 minutes, and back to work that day, with no sedation and no loss of function."

Yee says that CTC is rapidly gaining acceptance, having been endorsed earlier this year in new screening guidelines issued by the American Cancer Society. "This study should move us along even farther," she says. "Soon, millions of Americans will be able to take advantage of a safe, non-invasive method of preventing a devastating cancer."

Source: University of California - San Francisco

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