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New colonoscope provides ground-breaking view of colon

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A ground-breaking advance in colonoscopy technology signals the future of colorectal care, according to research presented today at Digestive Disease Week(DDW). Additional research focuses on optimizing the minimal withdrawal time for colonoscopies and exploring safer methods for removing polyps.

During colonoscopy, doctors use a device called a colonoscope to examine the colon. This screening test for colorectal cancer allows a doctor to look for precancerous polyps called adenomas in the colon and rectum. A study featuring a new colonoscope that allows doctors to see more of the colon shows promise that could revolutionize colorectal cancer screening.

Researchers compared both the adenoma miss rate using the new colonoscope with the miss rate of a traditional colonoscope. The miss rate for the new colonoscope was only 7.6 percent as compared to 41.7 percent for the traditional colonoscope, in this study.

"It's always our goal to minimize miss rates in colonoscopy," said Professor Ian M. Gralnek of the Bruce and Ruth Rappaport Faculty of Medicine, Technion-Israel Institute of Technology and senior physician at the department of gastroenterology, Rambam Health Care Campus and Elisha Hospital in Haifa, Israel. "These results show us a way to achieve that and improve the efficacy of colorectal cancer screening and surveillance colonoscopy."

Developed by EndoChoice, the Full Spectrum Endoscopy (FUSE) colonoscope maintains the identical technical features of the standard colonoscope, but allows the endoscopist to view 330 degrees, compared to the 170 degree viewing angle of the traditional colonoscope.

The study randomly assigned 197 patients for tandem colonoscopies using either the standard or the FUSE colonoscope first. In addition to a significantly lower adenoma miss rate, results showed a significantly higher adenoma detection rate favoring FUSE. Professor Gralnek credits FUSE's improved imaging technology with these findings as adenomas can be difficult to detect with only forward-viewing capabilities.

"Adenomas often hide behind folds in the colon and can be very difficult to find with a forward-viewing scope," Professor Gralnek said.

"Lower adenoma miss rates have important implications for patient surveillance," he added. The additional information FUSE provides to doctors may allow them to adjust patients' surveillance intervals according to risk level, ultimately helping to prevent incremental colorectal cancers. The FUSE scope could be available as early as this summer.

Colonoscopy withdrawal time makes a big difference for diagnosis

DDW also features other advances in colonoscopy relating not to what doctors see, but to how long they look. Researchers at Stanford University compared a three-minute versus six-minute withdrawal time during colonoscopy. The polyp miss rate was almost twice as high during the shorter procedure.

"The de facto standard of care for colonoscopy withdrawal time, which

is six minutes, was based on a single observational study," said Sheila Kumar, research fellow in Stanford's division of gastroenterology and hepatology. "More data were needed to ensure that we are providing the best care possible. Our findings provide evidence-based support that prolonging withdrawal time significantly decreases polyp miss rates at colonoscopy."

Dr. Kumar's research represents the first randomized controlled trial examining the effect of colonoscopy withdrawal times on polyp miss rates. The study was conducted with patients undergoing colonoscopies at Stanford and the Palo Alto Veterans Administration Hospital. Patients were randomized to an initial three-minute or six-minute colonoscopy withdrawal time. Patients then underwent a "second look" six-minute withdrawal to determine if polyps were missed with the first look.

"The study design also allowed for data collection for screenings up to 12 minutes long, by combining data for the first and second withdrawal," Dr. Kumar said. "Future comparisons could help to confirm the optimal time parameters of a colonoscopy."

A safer polypectomy option for high-risk patients

In another study, researchers at Showa Inan General Hospital in Komagane, Japan, found that a particular method of polypectomy—called a "cold snare" technique—is safer for patients on anticoagulants.

When a colon or rectal polyp is detected during colonoscopy, a polypectomy is often recommended to remove the growth. But for patients who use anticoagulants, or blood thinners, polypectomies carry higher risk because of bleeding that occurs during excision of the polyp and recovery.

"The results of our study represent an important opportunity for patients whose options have been severely limited up to this point," said Akira Horiuchi, chief of the hospital's Digestive Disease Center.

The study compared the bleeding associated with the conventional polypectomy technique and the cold snare technique. With the first, the polyp is snared with a wire and then cut using electrocautery. The cold snare technique mechanically cuts off the polyp without electrocautery.

With the latter method, bleeding was seen in only about 5 percent of cases compared to 23 percent of cases using the conventional technique. No delayed bleeding was associated with the cold snare technique, whereas 14 percent of the conventional patients required hemostasis afterward. Polyp removal rates were identical for both approaches.

"These differences are exciting and encouraging," Dr. Horiuchi said. "We think the study paves the way for future research to validate a safer option for many patients."

Provided by Digestive Disease Week