Wider Use Expected in 3-5 Years

Colon Imaging *from page 1*

"Some of it is skill, some of it is the interpretation, and some of it is just how long you take," he said. "The pressure of time has become very important in today's practice. Longer withdrawal times improve detection rates."

He added that colonoscopy as it is currently practiced—as opposed to the large national trials, such as the National Polyp Study—"may not consistently protect against colorectal cancer or prevent mortality. However, this is the implicit promise that we have offered to our patients," he said.

"Are we really delivering on that promise? We need to be sure," Dr. Pasricha added.

Last year, a joint task force of the American College of Gastroenterology and the American Society for Gastrointestinal Endoscopy recommended that the withdrawal time for examining the mucosa should be at least 6 minutes. As a measure of efficacy, clinicians should be able to document that 25% of male patients and 15% of female patients older than age 50 years had one or more adenomas.

Even if you follow the best-practice guidelines, the road ahead "is full of conflict," Dr. Pasricha said. Clinicians "still have this problem of excessive demand [for colonoscopies] and the pressure to do more."

"You are going to have to spend more time per colonoscopy if you adhere to these guidelines. You're going to get less well paid for the time you spend if current trends in reimbursement continue; there are going to be increases in liability and probably increases in patient dissatisfaction as our performance, in terms of missed rates, gets publicity. That's going to lead to increasing oversight by regulatory agencies," Dr. Pasricha said.

The good news, he noted, is that almost all of these problems are amenable to technologic solutions. One solution is to decrease the demand for colonoscopies by using nonoptical techniques such as virtual colography and improved biomarkers.

Virtual colography is a high-resolution CT scan with a software program that allows you to recreate or simulate the colon. "Some researchers have suggested that the sensitivity is not as good, but there are a lot of new developments in this area that are probably going to make this a reality," he said. "It's going to be along the lines of computer-aided diagnosis, which is really going to shorten the time frame for interpretation of images."

Even if you follow the best-practice guidelines, the road ahead 'is full of conflict.'

DR. PASRICHA

"Prepless" CT colonography, which eliminates the need to cleanse the colon, is another promising approach. "Once that becomes a reality, probably in the next 2-3 years, you will see a lot of patients embrace this," he said.

Combining CT colonography with colonoscopy also shows promise. One study suggests that if you stratify patients into low-risk and high-risk categories, with the former undergoing colonoscopy directly while the latter undergo CT colonography as the initial test, you can detect 89% of advanced neoplasia, with far fewer colonoscopies being performed, compared with a rate of 94% when universal colonoscopy was performed (Gastroenterology 2006;131: 1011-9).

Other alternatives include non-physician–based colonic visualization devices such as the Aer-O-Scope and the PillCam. The Aer-O-Scope, an investigational device made by G.I. View Ltd., is a disposable, self-propelling visualization device that travels from the rectum to the cecum. It has two balloons: The distal balloon contains an optical scanning component, whereas the proximal balloon seals off the rectum.

Proof of concept was achieved in 12 human cases (Gastroenterology 2006;130:672-7). The device reached the cecum in 10 patients in an average of 14 minutes. Only two patients required sedation, and no major mucosal damage was observed.

In two patients, the device stopped at the hepatic flexure, "so it's not perfect," Dr. Pasricha said. The device "still requires insertion of a blunt instrument into the rectum."

The PillCam, a device made by Given Imaging Ltd., is a variation of the capsule endoscopy devices currently on the market. It's larger, and its dual cameras cover twice as much area as most of the small bowel capsules do.

A pilot study of 91 patients seen at three centers in Israel found that the sensitivity of the PillCam ranged between 56% and 76%, and the specificity ranged between 69% and 100% (Endoscopy 2006;38:963-70). "We have a way to go with this technology," Dr. Pasricha said. "But given its simplicity and the rate of innovation, this may well be the so-called magic bullet in the future."

The PillCam is not currently approved for use in the United States.

Other solutions include products that decrease the duration of the insertion component of colonoscopy without compromising the quality of the care. These include NeoGuide Systems Inc.'s Navigator Endoscopy System, as well as the ShapeLock endoscopic guide (USGI Medical), the SoftScope (SoftScope Medical Technologies Inc.), and the CathCam.

There are also devices that address the problem of missed polyps. These include the Third-Eye Retroscope (Avantis Medical Systems Inc.), cap-assisted colonoscopy, wide-angle colonoscopy, and bioendoscopic techniques such as chromoendoscopy.

"This emerging technology is going to catch up in about 3-5 years," Dr. Pasricha said. "There is so much demand." ■

Virtual, Optical Colonoscopy Are Alike, Study Says

BOSTON — Interim results from a large military study comparing virtual and optical colonoscopy for colorectal cancer screening suggest the two methods are comparable in sensitivity and specificity, said Maj. Richard P. Moser III, MC, USA.

If final results of the 8-year screening virtual colonoscopy (VC) trial confirm this, they will be seen as validating the 2003 trial (N. Engl. J. Med. 2003;349: 2191-200) that put VC on the map for colorectal cancer screening, said Dr. Moser of Walter Reed Army Medical Center in Washington.

Speaking at an international symposium sponsored by Boston University, Dr. Moser said the trial includes 3,000 average-risk subjects.

Its goals are to validate the 2003 trial, to evaluate the effectiveness and cost-effectiveness of VC screening, and to gather data on the short-term natural history of 6- to 9-mm polyps.

Patients undergoing VC screening are sent to same-day optical colonoscopy (OC) if they have a polyp measuring 10 mm or more, or three polyps measuring at least 6 mm, Dr. Moser said. Patients with fewer than three medium-sized polyps are randomized to either same-day colonoscopy or 1-year VC follow-up. Patients with no polyps are randomized to either same-day OC or 5-year VC follow-up.

Interim results suggest that for polyps measuring at least 6 mm, VC has a sensitivity of about 90% vs. about 97% for OC. The specificity of VC was 73% vs. 80% specificity found in the 2003 trial, indicating a tendency to identify too many polyps.

—Kate Johnson

Patients Recruited for Pancreatic Cancer Screening Study

BY DOUG BRUNK
San Diego Bureau

SAN DIEGO — Screening for pancreatic cancer in people with a family history of the disease is not a perfect science, Dr. Marcia Irene Canto said at a meeting jointly sponsored by the AGA Institute and the Japanese Society of Gastroenterology.

"Much of our understanding of the genetics on the development of sporadic colorectal cancer stems from our understanding of familial colorectal cancer," said Dr. Canto, director of clinical research in the division of gastroenterology and hepatology at the Johns Hopkins University, Baltimore.

"Maybe we're 10 years behind in fully understanding the genetics of pancreatic cancer, but hopefully we'll get there." Since pancreatic cancer in relatives tends to develop in the 60s, Dr. Canto recommends that family members be screened starting at age 40 years, or 10 years younger than the youngest relative with the disease.

"Clearly, known family history is a risk factor," she said. "Screening can detect asymptomatic treatable neoplasms, as well as pancreatic neoplasms and extrapancreatic neoplasms."

In patients with Peutz-Jeghers syndrome, pancreatic cancer tends to present in the fourth decade of life. "Therefore, we propose that perhaps you would [screen these patients] at an earlier age, maybe at age 30," she said. "We don't know for sure."

In addition, smoking increases the risk and lowers age of onset by 10 years in people with a family history of the disease. "The first thing you can do for your patients besides taking a family history is tell them to stop smoking," she said.

Intraductal papillary mucinous neoplasm, multifocal pancreatic intraepithelial neoplasia, and lobulocentric chronic pancreatitis are part of the phenotype of familial pancreatic cancer. The best screening tests remain unknown, but various studies have suggested a role for endoscopic ultrasound (EUS), computed tomography (CT), magnetic resonance imaging (MRI), combined EUS/fine-needle aspiration, and endoscopic retrograde cholangiopancreatography.

In an effort to determine the optimal screening methods, Dr. Canto and her associates are currently recruiting patients for The Lustgarten Foundation for Pancreatic Cancer Research–National Cancer Institute Specialized Programs of Research Excellence Cancer of the Pancreas Screening Study (CAPS 3).

The researchers plan to screen high-risk individuals for early pancreatic neoplasia using EUS, CT, and MRI/magnetic resonance cholangiopancreatography (MRCP), and test a panel of candidate biomarkers.

They hypothesize that screening tests can detect early curable noninvasive pancreatic neoplasia in high-risk individuals before it progresses to invasive cancer.

Patients eligible for enrollment in the investigation include:

► Adults with at least two first-degree relatives (parent, sibling, child) with pancreatic cancer. If the family has three or more relatives with the disease, then the individual must have at least one first-degree relative affected; if the family has two relatives with pancreatic cancer, then the individual must have two first-degree relatives affected.

► Adults with Peutz-Jeghers syndrome.

► Adults who are carriers of the BRCA2 or familial atypical multiple mole melanoma (FAMMM) p16(CDKN2A) gene and there is at least one family member who had pancreatic cancer.

For additional questions about patient enrollment, contact caps3@jhmi.edu. ■