Piloting a smarter colonoscopy

It was nearly 25 years ago that television news anchor Katie Couric, whose husband died of colon cancer, helped raise public awareness of colorectal cancer by undergoing a colonoscopy that was shown on NBC's "The Today Show."

Shelli Dankoff, manager of Media Relations & Multimedia Services for OSF HealthCare, is taking a page from Couric. With a family history of appendiceal and abdominal cancer, Dankoff was excited to learn OSF HealthCare St. Joseph Medical Center in Bloomington, Illinois is piloting use of GI Genius – an FDA-approved Medtronic software platform with integrated AI algorithms. The platform has already shown an increase detection of precancerous polyps since the pilot launched April 1.

The GI Genius platform sits alongside the endoscope used to traverse the folds of the 5 feet of the average person's colon. Omar Khokhar, MD, a gastroenterologist championed the idea of trying the new technology to reduce his patients' risk of colorectal cancer, particularly at a time when new cases of colorectal cancer in people under the age 50 have been rising at an alarming rate.

Dr. Khokhar says the pilot will consider whether to use GI Genius, not only for screening colonoscopies, but for colonoscopies when patients have symptoms indicating possible colorectal cancer.

"For example, there's a 35-year-old who comes in with diarrhea or constipation or rectal bleeding, and I do that colonoscopy, I'll often tell my staff to turn it (GI Genius) on, to make sure we're not missing anything. So eventually, depending on the data, it could become the standard of care."

What exactly does the AI do? Dr. Khokhar says it leverages what it has learned from examining images and results from a large database of polyps from previous colonoscopies.

"The GI Genius goes through its AI library of images and will highlight any kind of abnormalities of the mucosal surface. And it will call attention to us to go look at that again. Sometimes it might be something, sometimes it might not be anything, but it's a useful additional tool that we can use during colonoscopies to find precancerous lesions."

Dankoff is excited that Dr. Khokhar is among physicians willing to test the benefits of AI. She compares it to the use of robotics for certain surgeries.

"It's kind of like when you hear people talking about robotic surgery or robots operating. No, that's not what it is. The surgeon is still controlling it. This is that same thing; you still have your gastroenterologist on the other end. They still have to know what they're looking at. It is a tool to help and to give better information, which I would think is reassuring to *them* too."

Known for his use of humor and analogies to help patients understand sometimes complex medical terms or conditions, Dr. Khokhar likens GI Genius to the type of technology on today's new automobiles with sensors around the car to provide lane assist and adaptive braking.

"It's like you have multiple eyes looking at the surface of the colon. Ultimately the gastroenterologist decides whether to sample, examine and inspect that area with more focus and then determine if that's something that needs to be removed or not."

During Dankoff's own colonoscopy, Dr. Khokhar reviewed two polyps highlighted by GI Genius and opted to remove them. He said that's not unusual, and he was not concerned based on their characteristics. The subsequent tissue biopsy came back benign and Dankoff won't need to be re-screened for 10 years.

Knowledge is power

Knowing new technology can support her doctor's decision gives Dankoff peace of mind.

"I would rather know something up front sooner rather than later. Because we tell people all the time, if you catch it and treat it, it's very treatable. And if I'm not willing to be the person who's going to walk the walk and talk the talk, I have no business doing what I'm doing."

Dr. Khokhar will be working with a Performance Improvement (PI) team at OSF Innovation to analyze data from the six-month pilot with GI Genius. The team will evaluate two metrics: The adenoma detection rate (percent of screening colonoscopies where an adenoma is found) and the post-colonoscopy cancer rate. While not cancerous, adenomas can turn into a cancerous tumor.

The data will be tracked in patients' electronic medical records. GI Genius does not record patient data.

PI experts will look at the data to see if the technology is really performing as promised, whether it is an improvement over the previous adenoma detection rate without the AI-backing, and whether it is worth the investment using those metrics. Vice President for Performance Improvement, Kelly George stresses that provider experience is important.

"GI Genius is a non-patient facing tool, so it is imperative to create a feedback loop to understand the experience of the physicians who are using it and monitor the data to identify any iterative changes that need to be made during the pilot."

OSF consistently explores innovations that don't pose a risk yet could improve patient outcomes in its drive to provide the highest quality care. Dr. Khokhar applauds the unique approach at OSF HealthCare that includes a willingness to partner with physicians who have ideas to better support clinical care and patients' experience.

"They're the ones who are going to look back and do the math and look at, 'Was this worthwhile?' and they have a fantastic team. They're the ones who (are) really nuts and bolts on the ground who took this from, 'Hey, this is a really cool idea that I saw somewhere' to 'How do we make this fit a square peg into a square hole?'

Dankoff thinks having the latest advanced technology could also help recruit new gastroenterologists and she believes it's something that could attract patients, like her, to have more confidence in results of a colonoscopy – considered the gold standard for cancer detection and prevention.

"If I could cut down on the number of screenings and have a greater sense of security that they really got to see everything in there. I think it'll be great."