

Capsule endoscopy sheds light into small intestine

The upper reaches of the digestive tract have long been open to examination through gastroscopy. Similarly, the colon and rectum have been studied through colonoscopy.

But until recently, some 15 feet or so in the middle of the digestive tract – the small intestine – remained “a bit of a black hole” to gastroenterologists, says Dr. Alex Millspaugh of Portland Gastroenterology Center.

The usual examination method was a small intestinal series test, in which the patient drank a barium solution and then was X-rayed. The drawbacks, Millspaugh explains, were that the test was time-consuming; uncomfortable for the patient; and, most importantly, “not particularly accurate.”

Fortunately, Millspaugh says, a new technology – capsule endoscopy – allows physicians to perform a full and amazingly detailed inspection of the small intestine.

Capsule endoscopy is, simply put, a camera in a pill, which the patient ingests in the morning. The camera, during its ensuing eight-hour passage through the small intestine,



Dr. Alex Millspaugh of Portland Gastroenterology Center holds the “camera in a pill” that delivers accurate images of the small intestines.

transmits two images per second, a total of some 14,000 images, to a data recorder the patient wears on his or her belt.

Late in the afternoon, the patient returns the equipment to the office, and the information – much like a film, in its final form – is then downloaded into a computer for ready analysis.

The process, Millspaugh emphasizes, is designed to be patient-friendly: The smooth capsule is “about the size of a large vitamin pill”; is dispos-

able, and simply leaves the body with the next bowel movement.

There are two main groups of patients for whom capsule endoscopy is especially beneficial, Millspaugh says.

“One is people who have what we call ‘obscure bleeding,’ which can be either overt or occult. It’s overt when the symptoms are visible, as in black stools. It’s occult when, for example, the primary care doctor diagnoses anemia due to microscopic amounts of blood that are being lost in the intes-

tines.

“When endoscopy of the upper and lower areas of the digestive tract shows nothing, it’s on to the small intestine. And we’ve found that the capsule endoscopy is fairly sensitive in picking up causes of obscure bleeding. Certainly it’s far more sensitive than the small intestinal series test.

“The other patients the capsule is generally used for are those who are suspected of having Crohn’s disease. They tend to have diarrhea and pain, or bloating, and to have some evidence of blood, or of inflammatory cells, in the stool. And we do find that we are now able to pick up more cases of Crohn’s disease than we used to.”

Millspaugh explains that capsule endoscopy was invented in 1981 by Dr. Gavriel Iddan, an Israeli, but took years to develop fully and was not put into practice until 2001, when it won FDA approval.

Now, Millspaugh says, a similar new technology is emerging – an esophageal capsule. Since it is necessary in the shorter esophagus to record more images more quickly, the device’s two transmitters can

send 15 images per second.

“We’re still trying to determine where exactly this capsule will be useful, but basically, it appears that it can help with patients with cirrhosis, in looking for enlarged blood vessels, and may be useful in some patients with chronic heartburn,” Millspaugh says.

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