NEWYORK–PRESBYTERIAN
DIGESTIVE DISEASES

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Spring 2007

ACS Recognizes Advances in Obesity Therapy

The American College of Surgeons (ACS) recently accredited the NewYork-Presbyterian Hospital Center for Obesity Surgery as a Center of Excellence, inducting the program into its Bariatric Surgery Center Network.

In recognition of the Center's high level of care and superior facilities, the ACS designated it a top-rated 1A facility, the first such honor given in New York State. The accreditation applies to the programs at both Centers of NewYork-Presbyterian: the Weill Cornell Weight Loss Surgery Center and the Columbia Center for Weight Loss Surgery. As leaders in their field, the bariatric surgeons of NewYork-Presbyterian are also called on to help the ACS evaluate other institutions.

"There has been a huge growth in the number of places doing bariatric surgery over the past 5 years, but not all are achieving a high level of excellence," said Marc Bessler, MD. "Patients can greatly benefit from this surgery, but elective operations that are high-risk should be done in centers such as ours that have been recognized for their expertise."

The prestige of the accreditation holds another important benefit for patients: better insurance coverage. "There's a direct relationship between accreditation as a Center of Excellence and [reimbursement] by the Centers for Medicare & Medicaid Services (CMS).

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New Technology for Pancreatic Cancer Shines in Early Trials

With few signs in its earliest stages and later symptoms that mimic those of many other illnesses, pancreatic cancer is notoriously difficult to pinpoint. However, a new fiber-optic device being tested at NewYork-Presbyterian Hospital/Columbia University Medical Center may ultimately enable physicians to diagnose the disease with visually directed biopsy.

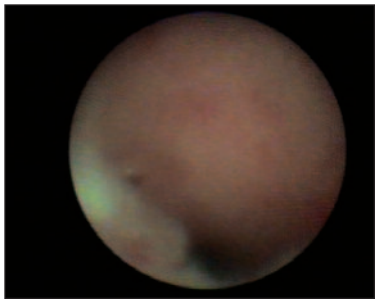

Photo courtesy of Peter D. Stevens, MD.

A SpyGlass endoscopic image of the pancreatic duct shows neoplastic mucosa appearing like a crescent moon (lower left) in a patient with intraductal papillary mucinous neoplasms.

The new instrument, a choledochoscope known as the SpyGlass System, will soon be launched by Boston Scientific Corporation. A choledochoscope is an extremely small scope designed to examine the interior of the common bile duct and is used in concert with endoscopic retrograde cholangiopancreatography (ERCP). Endoscopists at NewYork-Presbyterian/Columbia perform nearly 1,000 ERCP procedures per year.

"It's a tool to visualize in real color and real time what's going on in the [gastrointestinal] tract," said Peter D. Stevens, MD. "It builds on technologic advances in fiberoptics, which have gotten much easier to make and less expensive."

The system consists of a 6,000-pixel choledochoscope that can be reused approximately 20 times, a disposable delivery catheter that enables the delicate fiber to travel further into the body, accessories for taking tissue samples or removing stones, and capital equipment such as a monitor, cart, and light source.

SpyGlass offers several advantages over previous choledochoscopes, which first

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News flash: Columbia doctors perform revolutionary procedure to remove a patient's gall bladder.

For more information, please visit www.nypdigestive.org

NewYork-Presbyterian
The University Hospital of Columbia and Cornell

Case Study: Considering New Options in the Treatment of IBD

The Case

A 20-year-old woman diagnosed with Crohn's ileocolitis presented to the Jill Roberts Center for Inflammatory Bowel Diseases (IBD) at NewYork-Presbyterian Hospital/Weill Cornell Medical Center for a second opinion regarding her severe weight loss and loss of response to infliximab therapy.

The woman's medical history had been one of progressive decline. She had been in perfect health until summer 2005, when she suddenly developed new-onset diarrhea, which failed to subside. She subsequently detected traces of blood in her stool. Presenting to an outlying hospital emergency room, she was found to have a hemoglobin level of 5 g/dL.

Upon admission, the woman underwent a computed tomography (CT) scan, which showed extensive segmental colitis. She was started on intravenous (I.V.) antibiotics, ciprofloxacin and metronidazole, and I.V. steroids.

After 2 weeks, she was discharged home on oral antibiotics, prednisone, and mesalamine (Pentasa). Within 1 week, she developed new-onset tachycardia, and in a second hospitalization was diagnosed to have Wolff-Parkinson-White syndrome. After undergoing ablation, she developed a thrombosis secondary to ablation that required anticoagulation therapy. Because she was still on steroids, she was started on low-dose azathioprine.

Over the next 4 months, the patient's Crohn's symptoms gradually improved with steroids and low-dose azathioprine, but she never went into remission. She was having 3 to 4 semiformed bowel movements per day, and her weight was down from 138 to 115 lb. In January 2006, she began to have 10 to 15 bowel movements per day, and by February she weighed 85 lb.

During a subsequent hospitalization, a CT scan showed extensive thickening of the entire colon and distal ileum, and a possible abscess in the right lower quadrant. She was treated aggressively with I.V. antibiotics. A second CT scan showed a resolution of the abscess, but no improvement in the other findings.

Colonoscopy indicted an ulcerated terminal ileum and a segmental colitis involving the cecum, the right and transverse colons, and the rectosigmoid. The rectum was relatively spared, with only patchy hyperemia and no fistula noted.

The patient was started on infliximab 5 mg/kg, with a 3-dose induction, at zero, 2, 6, followed by every 8 weeks. Her azathioprine dose was increased to 100 mg. She remained on prednisone 50 to 60 mg. By summer, she had 7 infusions of infliximab and was able to come off the steroids. Initially, she regained much of the lost weight.

In December 2006, she presented to the Jill Roberts Center with a 40-lb weight loss and more than 10 watery, semiformed bowel movements per day. She was no longer responding to infliximab and was considered refractory to mesalamine, azathioprine, and steroids. The clinical question became: What was causing her attenuated response to infliximab? What are her surgical options?

Discussion

According to Ellen J. Scherl, MD, the patient's failure to respond is typical of many cases seen at the Jill Roberts Center. One explanation in this case, Dr. Scherl said, was that the patient had become resistant to infliximab. Other possibilities were that she needed a higher dose or had developed strictures that were not improving on the medication. An option was to shorten the interval between infliximab infusions and increase the dose while evaluating whether the patient had developed antibodies to infliximab or was a true nonresponder (with therapeutic levels of infliximab in her blood but no antibodies to infliximab).

The case was discussed with Peter D. Green, MD, and an overlap with celiac disease was excluded by serologic evaluation including antigliadin, antiendomysial, and antireticulin antibodies. A small bowel series was performed at the Jill Roberts Center to further rule out celiac disease and to define the extent of ileal Crohn's disease. The X-ray images showed 3 strictures in the distal 2 feet of the ileum, with what appeared to be some obstructive component with mild dilation of the loops proximal to the strictures. There was a long segment of relative narrowing 9 to 10 cm in the distal ileum and 10 cm from the ileocecal valve. There was no evidence of fistula or abscess.

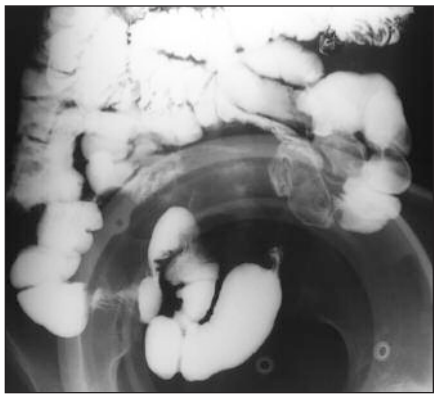

Photo courtesy of Ellen J. Scherl, MD.

Small bowel series showing 3 strictures in the distal 2 feet of the ileum with mild dilation.

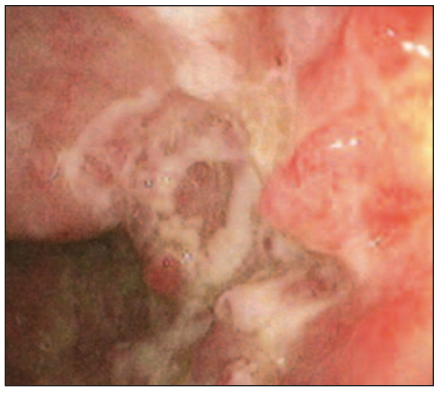

Photo courtesy of Ellen J. Scherl, MD.

Severe left-sided colitis with deep ulcerations.

A colonoscopy indicated severe left-sided inflammation from the anal verge to the splenic flexure with narrowing at 5 to 10 cm and then 20 to 30 cm. Above the splenic flexure the colon appeared normal, and there was a narrowing of the terminal ileum. Biopsies showed focally active colitis. No granulomas were seen and upper endoscopy showed no gastroduodenal Crohn's disease.

"We could increase the patient's medication or discuss a clinical trial," Dr. Scherl said, "but we need to consider surgery for her obstructive symptoms. She's losing weight because she is not eating, due to pain from these partial obstructing lesions in the small bowel. Is she going to get away with ileal surgery alone? No, because she has had significant colonic disease," said Dr. Scherl. "However, her weight loss is related to partial obstruction," she added.

The physicians at the Jill Roberts Center elected to shorten the interval of infliximab infusion to every 6 weeks and increase the dose to 10 mg/kg while the surgical team follows the patient closely.

More novel anti-tumor necrosis factor therapies such as adalimumab (HUMIRA)—which has recently been FDA approved for the treatment of Crohn's disease, with an induction dose of 160 mg subcutaneous followed by 80 mg in 2 weeks and then 40 mg every other week—are now available for select patients with moderate to severe Crohn's disease.

"We have a very good working relationship with surgeons here," said Brian Bosworth, MD, "and although medical breakthroughs are revolutionizing IBD therapy, surgical breakthroughs such as bowel sparing stricturoplasties also have a significant impact on the lives of our IBD patients."

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NewYork-Presbyterian Digestive Diseases

is a publication of the Digestive Diseases Centers of NewYork-Presbyterian Hospital. The Digestive Diseases Centers are at the forefront of research and practice in the areas of gastroenterology; GI surgery; and liver, bile duct, and pancreatic disorders. NewYork-Presbyterian Hospital/Columbia University Medical Center and NewYork-Presbyterian Hospital/Weill Cornell Medical Center are respectively affiliated with Columbia University College of Physicians and Surgeons and Weill Cornell Medical College.

NewYork-Presbyterian Digestive Diseases Editorial Board

Jill Roberts Center Fosters Collaboration in Treatment of IBD

Open for less than a year, the Jill Roberts Center for Inflammatory Bowel Disease (IBD) at NewYork-Presbyterian Hospital/Weill Cornell Medical Center has already become a major referral center for complicated cases of Crohn's disease and ulcerative colitis.

"We see 15 to 20 cases a day, including cases from the tristate area and beyond," said Ellen J. Scherl, MD. "Many are referred because medical or surgical therapy has failed," she added.

Left to right: Herbert Pardes, MD, Brian Bosworth, MD, Jill Roberts, Ira M. Jacobson, MD, Ellen J. Scherl, MD, and Antonio M. Gotto, Jr., MD, marked the opening of the Jill Roberts Center for Inflammatory Bowel Disease in a ribbon-cutting ceremony on September 12, 2006.

More than 1 million Americans suffer from IBD. The largest concentration is found among individuals 15 to 30 years of age. "The medical tragedy is that it affects young people in their prime—when they begin dating, when they're going to college, when they're looking for jobs and getting married and having children," Dr. Scherl said.

"Crohn's disease and ulcerative colitis are lifelong illnesses. We are committed to getting patients well and keeping them well," added Dr. Scherl.

Funded by a $4 million gift from NewYork-Presbyterian Hospital benefactor Jill Roberts, the Center was launched in September 2006 as the third of 3 world-class gastrointestinal (GI) treatment and research centers located in the Stich Building at NewYork-Presbyterian/Weill Cornell. The others are the Jay Monahan Center for Gastrointestinal Health and the Center for Colon and Rectal Surgery. The 3 centers not only share facilities, but also collaborate in educational outreach, patient care, and basic scientific and clinical research.

"The addition of the Jill Roberts Center has allowed Dr. Scherl to bring together a group of experts in management of IBD patients," said Peter Green, MD. "Their team approach will provide the best care available. This, together with their studies of new-generation biological therapies, is a wonderful asset in the management of these complicated patients."

"This is a wonderful environment to work in," noted Brian Bosworth, MD, who joined the Center last July. "It's a place where patients come to receive seamless care for inflammatory bowel disease. Many of them are really quite sick. We want to be able to look out for all of their interests—their medical, physical, emotional, and family needs."

In addition to offering the most advanced medical and surgical treatment options, the Jill Roberts Center provides early-detection screening for long-term complications of IBD, including colorectal cancer and osteoporosis. Patients have access to a full range of treatment approaches, including nutritional counseling and other support services key to maintaining GI health.

On the research front, the Jill Roberts Center is engaged in a broad, collaborative effort to advance understanding of the genetic and molecular pathways involved in bowel inflammation and translate that knowledge into new therapies. According to Dr. Scherl, more than 15 clinical and investigator-initiated studies are in progress. They include trials to evaluate novel biologic agents that target tumor necrosis factor, such as adalimumab, certolizumab pegol, and golimumab.

"We're also looking at other biologics in clinical trials, such as anti-IL [interleukin] 12 agents, basilixumab and visilizumab, as well as at novel mesalamine therapies," said Dr. Scherl. Other studies are following additional promising leads, such as the correlation between hemangiogenesis and IBD and the role of mucosal bacteria in bowel inflammation.

The Center's partnership with colorectal

see Jill Roberts, page 7

Surgeon Pioneers Strictureplasty for Crohn's Disease

More than a decade ago, Fabrizio Michelassi, MD, pioneered a surgical technique for patients with extensive Crohn's disease that alleviates symptoms and offers a bowel-saving alternative to resection in the treatment of strictures. Today, the Michelassi strictureplasty has been adopted by surgeons throughout the world and has been reproduced with similar results.

An international, multicenter study recently published in *Diseases of the Colon & Rectum* examined 184 patients with Crohn's disease who had undergone the procedure, also known as side-to-side isoperistaltic strictureplasty. The researchers concluded that the procedure carries a very low mortality and morbidity rate, with an acceptable recurrence rate (*Dis Colon Rectum* 2007;50:277-284). The study found that 41 of the patients required surgery for recurrent disease, but only 14 patients experienced recurrence of disease at the site of the strictureplasty. Although the risk for recurrence at the strictureplasty site was not entirely eliminated, the observed risk was less than the expected risk.

"We all know that Crohn's disease is a recurring disease," said Dr. Michelassi. "What the study points to is the fact that the disease recurs less frequently than expected at the side-to-side strictureplasty site, suggesting that the strictureplasty has a protective effect against Crohn's disease recurrence."

The technique is performed by dividing the diseased loop of small bowel at its midpoint. The proximal portion of diseased intestine is then moved over the distal portion of diseased intestine in a side-to-side manner. Using sutures, the surgeon approximates the 2 loops. Two parallel longitudinal openings are then created, 1 in each loop. The 2 openings are then sutured together, widening the intestinal lumen. The result of the procedure is a larger intestinal lumen through which food can transit unimpeded and nutrients can be absorbed. The larger intestinal passageway alleviates the symptoms—such as cramps, abdominal distension, bloating and vomiting—commonly experienced by patients with many strictures. Like any strictureplasty, the Michelassi procedure is contraindicated in patients with generalized peritonitis or profound malnutrition, and it should not be performed on segments with acute inflammation and phlegmon. Also, long, high-grade strictures are often not adaptable to strictureplasty.

Photo courtesy of Fabrizio Michelassi, MD.

Strictureplasty success: A study published in 2000 found that the procedure preserved an average of 17% of small-bowel length in 21 patients (Ann Surg 2000;232:401-408).

> "We all know Crohn's disease is a recurring disease. [With strictureplasty], the disease recurs less frequently than expected, suggesting that [the procedure] has a protective effect."
>
> —*Fabrizio Michelassi, MD*

The technique was initially proposed for the surgical treatment of extensive jejunoileitis with multiple fibrotic strictures. It has since been modified to treat recurrent neoterminal ileal disease. "It has been modified to face different technical challenges within the same patient population," said Dr. Michelassi.

An added advantage of the procedure is that it is designed to avoid sacrificing extensive amounts of intestine. "Extensive intestinal resections or repeated resections may precipitate short-gut syndrome, a situation where the patient does not have enough intestine to absorb adequate amounts of nutrients, vitamins and minerals," noted Dr. Michelassi. With the Michelassi strictureplasty, the bowel is not resected.

In a study published in 2000, the procedure preserved an average of 17% of small-bowel length in 21 patients who

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Obesity

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Over time, with CMS approval, insurance companies come along, too," explained Alfons Pomp, MD.

Both NewYork-Presbyterian sites, which also have received a 5-star HealthGrades rating, are known for their extensive medical resources, such as round-the-clock coverage by bariatric surgeons and a multidisciplinary team including nutritionists and psychologists. The facilities provide additional amenities for bariatric patients: larger hospital beds, chairs, and toilets that can hold their weight.

> "We're one of the few centers in the United States who are able to offer 5 laparoscopic bariatric procedures: gastric bypass, duodenal switch, adjustable gastric band, sleeve gastrectomy, and revisional surgeries."
>
> *—Michel Gagner, MD*

The NewYork-Presbyterian/Columbia Center is best known for its revisional procedures to correct failed bariatric surgery. When weight loss is inadequate following gastric bypass, surgeons can place adjustable silicone gastric banding around the patient's gastric pouch. When the opening between the stomach and intestines dilates over time after the initial surgery, a sclerosing agent can be injected to narrow it. Another common revision that surgeons at the NewYork-Presbyterian/Columbia Center perform is endoluminal suturing, during which surgeons enter the stomach with an endoscope and stitch the opening more tightly.

The NewYork-Presbyterian/Weill Cornell Center specializes in laparoscopic duodenal switch and sleeve gastrectomy, procedures pioneered by Michel Gagner, MD. In sleeve gastrectomy, the left side of the stomach is surgically removed to create a new stomach with roughly the size and shape of a banana, whereas in duodenal switch, a partial gastrectomy is created and the intestinal flow is rerouted while the pyloric valve is kept intact. An important aspect of the duodenal switch procedure is that it reduces the absorption of dietary fat by approximately 70%, a valuable benefit for patients attempting to reduce their cholesterol or triglyceride level. The Weill Cornell group has recently introduced a revision strategy that transforms gastric bypass into laparoscopic duodenal switch, resulting in the loss of nearly 80% of excess weight after 1 year.

Currently, duodenal switch accounts for approximately 5% of all bariatric surgeries, with gastric bypass making up 80% and gastric banding the remaining 15%. The primary reason for this imbalance, said Dr. Gagner, is a lack of insurance coverage for duodenal switch, although both Aetna and CMS recently decided to cover the surgery. And after an article published in October 2006 reported that weight loss after duodenal switch is better than weight loss after gastric bypass, he noticed a surge of interest from surgeons wanting to learn the procedure (*Ann Surg* 2006;244:611-619).

Both Centers perform an unusually diverse array of surgeries. "We're one of the few centers in the United States that is able to offer 5 laparoscopic bariatric procedures: gastric bypass, duodenal switch, adjustable gastric band, sleeve gastrectomy, and revisional surgeries," said Dr. Gagner. "Most programs do only one type. That's a detriment to the patients. They want a surgeon who can determine exactly which surgery is best for them."

NewYork-Presbyterian is also engaged in a wide spectrum of research projects investigating surgical techniques, how preoperative weight loss influences surgical outcomes, the mechanism behind the postsurgical improvement noted in the condition of patients with diabetes, and other related questions. The Hospital is one of only 6 clinical centers taking part in the National Institutes of Health Longitudinal Assessment of Bariatric Surgery (LABS) study. Drs. Gagner and Bessler, who is Chairman of the American Society of Bariatric Surgery Committee for Emerging Technologies, are researching new technologies for the treatment of obesity.

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Jill Roberts

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surgeons has been a key factor in its success, according to Dr. Scherl. "We could not do this without the stellar surgeons that we have," she said, "and that begins with Dr. Fabrizio Michelassi [Surgeon-in-Chief at NewYork-Presbyterian/Weill Cornell] and Dr. Jeffrey Milson [Chief, Division of Colorectal Surgery at NewYork-Presbyterian/Weill Cornell]." Dr. Michelassi and Dr. Milson are co-authors of "Operative Strategies in Inflammatory Bowel Disease," the definitive work on IBD surgery.

The Jill Roberts Center has also collaborated with Dr. Green at NewYork-Presbyterian Hospital/Columbia University Medical Center in exploring the overlap between Crohn's disease and celiac disease found in a small number of patients. "If we can make the diagnosis [of celiac disease] and withdraw the offending dietary substance that causes it, namely gluten, we can improve some of the symptoms," Dr. Scherl said.

Clinicians in other disciplines have also provided support. "IBD tends to involve various parts of the bowel, but there are extraintestinal manifestations," said Dr. Scherl. She noted that the Jill Roberts Center works with expert rheumatologists, endocrinologists, and hematologists as well as with Sudhir Diwan, MD, at the Weill Cornell Pain Medicine Center.

> "If we can make the diagnosis [of celiac disease] and withdraw the offending dietary substance, we can improve some of the symptoms."
>
> —*Ellen J. Scherl, MD*

The Jill Roberts Center also has access to an outstanding hepatobiliary department and 2-campus liver transplant program. Furthermore, it has begun a successful pediatric collaboration with Robbyn Sockolow, MD, Section Chief in the Division of Pediatric Gastroenterology and Nutrition at NewYork-Presbyterian/Weill Cornell.

"Remember that this is a disease that affects young people," said Dr. Scherl, "so there are many children who grow up and come over here, and many young people that end up seeing Dr. Sockolow. It is an interactive collaboration."

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Strictureplasty

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underwent the side-to-side strictureplasty to relieve symptomatic partial intestinal obstruction due to Crohn's disease. The study found radiographic, endoscopic, and histopathologic evidence that active Crohn's disease regressed to quiescent disease at the site of the Michelassi strictureplasty, suggesting that the strictureplasty technique may return the bowel to normal anatomy and possibly normal function (*Ann Surg* 2000;232:401-408).

In addition, medicinal advances and a multidisciplinary approach play significant roles in helping patients with advanced Crohn's disease.

"A multidisciplinary approach and medical treatment are very important and postpone the need for surgery in patients with Crohn's disease," explained Dr. Michelassi, adding that appropriate medical therapy lowers the risk for recurrences after surgery.

> "A multidisciplinary approach and medical treatment are very important and postpone the need for surgery in patients with Crohn's disease."
>
> —*Fabrizio Michelassi, MD*

In the future, Dr. Michelassi envisions greater potential for the procedure, particularly if the technique can be modified so that it can be used to manage primary Crohn's disease in the last foot of the small bowel, which is often removed in surgery.

"I think the side-to-side strictureplasty could be modified to address the disease of the terminal ileum, extending the concept of bowel-sparing surgery to the intestinal site most commonly affected by Crohn's disease," said Dr. Michelassi.

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SpyGlass
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appeared several decades ago but were never widely adopted. Earlier scopes were not only fragile but also expensive to repair or replace, whereas the most fragile component of SpyGlass is designed to be disposable and thus more affordable. Irrigation with the new device is improved, so that the extra step of inserting irrigating catheters next to the endoscope is no longer required. Prior scopes small enough to navigate the bile and pancreatic ducts could move in only 2 directions; SpyGlass, on the other hand, is capable of 4-way deflection. Finally, the entire procedure can be carried out by a single endoscopist.

Investigators at NewYork-Presbyterian/Columbia have been researching SpyGlass since its earliest use in human trials in January 2005. Together with specialists from the University of Colorado Health Sciences Center in Denver, Beth Israel Deaconess Medical Center in Boston, Fox Chase Cancer Center in Philadelphia, and Mayo Clinic College of Medicine in Rochester, Minn, they have completed the first phase of their project.

In a presentation at Digestive Diseases Week 2007, the investigators announced their findings from a 15-patient study indicating that SpyGlass provides a safe and effective method for treating refractory biliary stones with electrohydraulic lithotripsy. With no reported complications or technical failures to deliver the fiber optics, they achieved stone clearance in 85% of cases tested.

Currently, the 5 centers are conducting a second research phase, the Spy 2 Clinical Registry, to gather more information about how the method affects clinical practice. The investigators are looking at patients who have indications for choledochoscopy and pancreatoscopy. Pancreatic cancer will be a particular focus during the clinical registry because of the large volume of patients treated for this disease at NewYork-Presbyterian/Columbia.

The SpyGlass has been found to offer 2 major advantages over ERCP alone. Because of imprecise methods of tissue acquisition, pancreatic cancer can be difficult to diagnose with ERCP brushings and biopsy specimens from the pancreatic or bile ducts. "When you're just using X-rays, you brush blindly," said Dr. Stevens. "What direct visualization provides is the ability to say, 'Okay, in this square millimeter of tissue, there's a break in the mucosa.' With SpyGlass, you actually look at the most abnormal tissues and take a biopsy [specimen] from that area." The hope is that this visualization capability will improve accuracy in the diagnosis of pancreatic tumors.

Furthermore, in patients with certain tumors, the only way to identify the portion of the pancreas involved is to actually look inside the ducts and take specimens from each section. Dr. Stevens cited a recent case in which the entire pancreas appeared to be involved in a mucus-producing tumor. The patient was reluctant to undergo an entire pancreatic resection because of the high risk for complications such as glucose intolerance, pancreatic fistulas, and delayed gastric emptying.

"So we put the Spy scope up and used forceps to biopsy along the length of the pancreatic duct from the tail to the head. We were able to demonstrate both visibly and by biopsy that the disease was limited to the head," said Dr. Stevens. Thus, the new method may prove to be a pancreas-preserving diagnostic evaluation, allowing the surgeon to target only areas found to be abnormal by biopsy.

Although researchers are still in the early stages of assessing the applications of SpyGlass in pancreatic cancer, he added, historical precedence suggests that such improvements in direct visualization greatly improve diagnosis and treatment.

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NEWYORK-PRESBYTERIAN DIGESTIVE DISEASES

Important news from the Digestive Diseases Services Centers of NewYork-Presbyterian Hospital, leading the way in treatment and research in gastrointestinal, liver and bile duct, pancreatic, and nutritional disorders.

Spring 2007

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