COOK® MEDICAL

The Channel

A COOK NEWS PUBLICATION ISSUE 1, 2014

New Evolution® Biliary Eases Stent Placement

"The process of placing a metal stent is much more difficult than a plastic biliary stent. As a fellow, every opportunity to place a metal biliary stent is very important. The plastic stent does not expand or need to be deployed, so essentially you place the stent where it needs to be and the process is complete. Since the metal stent is expanding, it needs to be deployed in the correct position and that position needs to be held during deployment.

"The Evolution stent makes this process easier as it is controlled in its release and you can adjust during deployment. There is a clear point of no return in the deployment process. The markings are very clear and the deployment process is much easier given the control you have over the stent."

– Nilay Kavathia, MD

Brenda Dennert, MD
Gastroenterologist

Nilay Kavathia, MD
GI Fellow

Banner Good Samaritan
Phoenix, AZ

Restoring Biliary Flow with the Evolution Metal Stent

Brenda Dennert, MD, and GI Fellow Nilay Kavathia, MD, share their clinical case experience with the new Evolution Controlled-Release Biliary Uncovered Stent.

Indications

The patient is 59 years old with metastatic pancreatic adenocarcinoma, which was recently diagnosed. The patient was seen by Oncology and was planned for palliative chemotherapy. The patient was told that the chemotherapy would only be administered if his bilirubin were less than 3.0 mg/dl. The patient's pancreatic cancer was causing biliary obstruction with a bilirubin level of 7.2 gm/dl with debilitating pruritus.

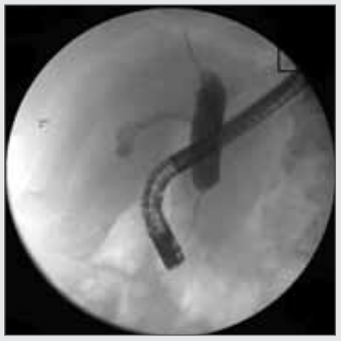

Figure 1

Devices and Accessories

For the ERCP, a standard sphincterotome with a .035" Acrobat Calibrated Tip Wire Guide was used to cannulate the common bile duct. An Evolution Biliary Controlled-Release uncovered stent that was 8 cm was placed into the common bile duct.

Presentation and Diagnosis

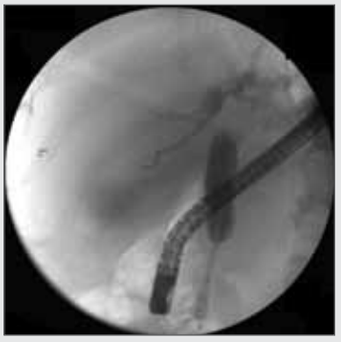

Figure 2

The patient was otherwise healthy until admission to the hospital after his family noticed the patient was "turning yellow." The patient reported a 20-pound weight loss and some fatigue but otherwise felt well. Initial lab work showed a significantly elevated bilirubin at 8.6 gm/dl and transaminases consistent with biliary obstruction. A CT scan showed a 2.7 x 2.9 x 3.0 cm lesion in the head of the pancreas suspicious for pancreatic malignancy. There were also metastatic lesions seen in the liver. As the work up continued, the patient was noted to have a significantly elevated CA19-9 at 2156. A biopsy of the liver lesion confirmed that this was stage IV pancreatic adenocarcinoma.

Given the metastatic nature of the cancer, surgical options were not present. The patient was seen by Oncology for palliative chemotherapy. The oncology team stated the patient was a candidate for palliative chemotherapy as long as bilirubin remained less than 3 gm/dl. The patient was presented options of percutaneous biliary drain or endoscopic stenting of the common bile duct. It was unlikely that a plastic biliary stent would be adequate as it would likely migrate or clog. The patient was scheduled for an uncovered metal stent.

New Evolution Biliary, continued on page 7

See Dr. Mankanwal Singh Sachdev's Evolution Biliary case on page 3

In This Issue

An official publication of Cook Medical.

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If you would like to submit material for The Channel, please email us at thechannel@cookmedical.com.

We welcome your comments and suggestions.

Who Are We, Anyway?

Barry Slowey
Business Unit Leader
Vice President
Cook Medical, Endoscopy

In 2013, Cook Medical celebrated its 50th anniversary and our Endoscopy division turned 30. Like many of us do when reaching milestones in our lives, we took the occasion to reflect a bit on who we are and why we do what we do.

We are a company that, by creating simple solutions to the complex clinical problems you face, has become the largest privately owned medical device manufacturer in the world.

It began in 1963, when Bill collaborated with physicians to make the tools they needed for a brand new medical field they were creating—interventional radiology. The Cook "factory" was the spare bedroom of Bill's Bloomington, Indiana apartment. Then, in 1983, Bill and Don Wilson partnered with clinicians in the field of gastroenterology to create Cook's Endoscopy division (known then as Wilson-Cook Medical).

But why do we do what we do? That, too, began with Bill Cook. His mission statement was simple but bold: "Do what's right for patients." He and Don knew that if they applied their entrepreneurial spirit to meeting the challenges you face every day, that Cook could become successful by making you successful.

Making products that, in your hands, help patients everyday is what inspires us. It's in our DNA. It's the thing that got us out of bed this morning. It is what will get us out of bed tomorrow and the next day and the next.

Take Hemospray* (Licensed in Europe, Canada and other markets), for example, the revolutionary new modality for treating emergent GI bleeds that ingeniously simplifies these often-complex procedures. There's also the Instinct Hemoclip, which gives clinicians more control during critical hemostasis cases. The continually expanding family of Evolution Controlled-Release stents are unique in that you can deploy, recapture and/or reposition stents throughout the entire GI tract. (See two clinical case studies in this issue of The Channel using the new Evolution Biliary Uncovered stent.)

We worked with a prominent EUS specialist to create the EchoTip ProCore EUS needles, which are yielding more combined cytological and histological information than ever, as seen in the case study on page 18. And, by recognizing the growing importance and positive patient impact of EBUS procedures, Cook was the first company to bring cytology and histology capabilities to endobronchial procedures with the EchoTip ProCore EBUS needles (see case study on page 17).

While we take pride in our heritage and innovations, what really excites us is the future. Yes, we are facing an often uncertain and ever shifting landscape that has created downward pressure on all of us in the healthcare industry. There's the increasing cost of treating our aging world population, the rise in disease prevalence, especially lifestyle diseases. There will continue to be more and more patients even as resources are shrinking and as the regulatory environment and legislative initiatives become more challenging.

But we are already engaging those many changes, and we are doing so with something that will never change: The values that make us who we are. Values like collaboration, innovating for better patient care and commitment to the highest ethics. And there's that unrelenting entrepreneurial characteristic that has been in our DNA since we first collaborated with clinicians all those years ago.

We hope our anniversary reflections help you better understand not only who we are but also that you have been an integral part of this exhilarating journey. We thank you for that. And we look forward to continuing to collaborate with you today and tomorrow and for the next 50 years to keep "doing what's right for patients."

**Not for sale in the USA.*

Evolution® Biliary in Relief of Malignant Obstruction

Mankanwal Singh Sachdev, MD
Director, Arizona Center for Digestive Health
Director of Endoscopic Ultrasound
Banner Good Samaritan Hospital
Phoenix, AZ

Indication and Devices

Once a malignant and nonresectable biliary obstruction is discovered, a metal stent is typically used to resolve the issue. In addition, an 8.5 mm (injection above) Cook Fusion Quattro Extraction Balloon, an Acrobat Calibrated Tip Wire Guide and a Fusion OMNI-Tome were used.

Presentation, Diagnosis and Outcome

A 70-year-old patient presented as an outpatient for symptomatic cholelithiasis and a laproscopic cholecystectomy was ordered and then performed. Prior to this, a CT was done, which revealed a lesion in the liver and a dilated bile duct. During surgery, the intraoperative cholangiogram was suggestive for a stricture in the bile duct, and liver biopsy was performed.

After this, a MRCP was ordered, which confirmed the presence of a stricture. ERCP was done next and the stricture was biopsied with standard biopsy forceps, brushed and then stented with a 10 Fr by 12 cm stent. *(Figures 1-3)* The patient did well initially, and liver enzymes came down. The patient's jaundice improved and in the subsequent days both the liver biopsy and bile duct biopsy came back positive for adenocarcinoma.

Approximately 2 weeks after stent placement, the patient presented with signs and symptoms of biliary obstruction. A second ERCP was performed, which revealed that the stent had become occluded with blood. At this point the stent was removed, the duct was cleaned using a balloon and a new stent was placed. A metal stent was not entertained at this point, because one was not available.

The patient was discharged and did well for another two weeks but then once again presented with obstruction and then cholangitis. The second stent was removed during ERCP and a 10 mm by 10 cm uncovered Evolution Controlled-Release metal stent was placed. Complete drainage of bile was achieved. *(Figures 4-6)*

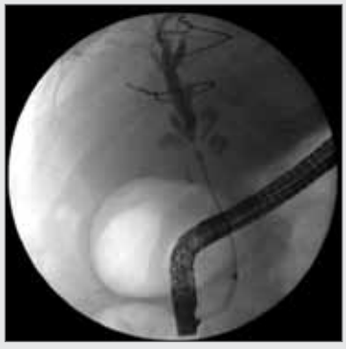

Figure 1

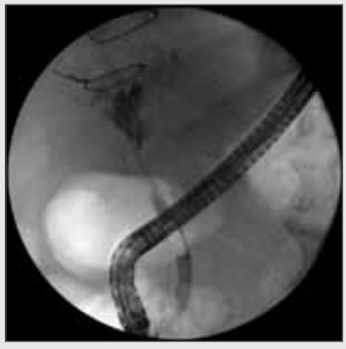

Figure 2

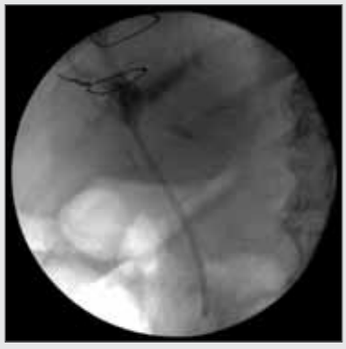

Figure 3

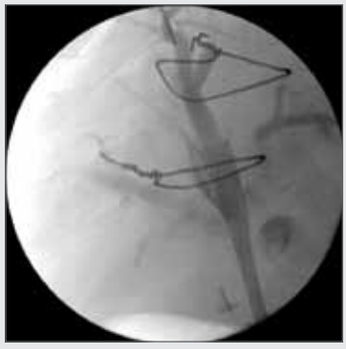

Figure 4

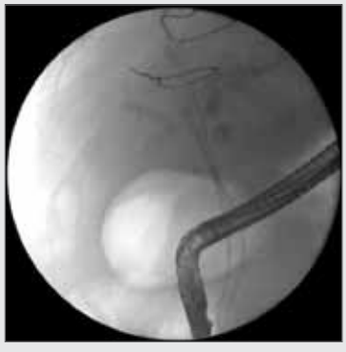

Figure 5

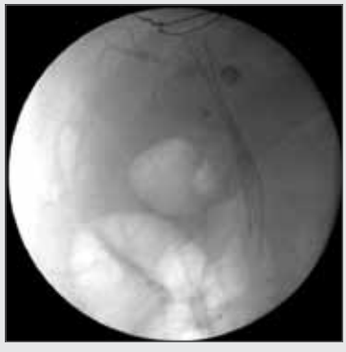

Figure 6

Multiple Achievements in Record Time

Dr. Kenneth Atkinson, MD, FRCP
Gastroenterology / Internal Medicine
Royal Columbian Hospital
New Westminster
British Columbia, Canada

Background

We have to run an efficient unit at the Royal Columbian Hospital. Recently, we attempted to perform a duodenal stricture dilatation, replace a plastic biliary stent with a metal biliary stent and place a metal duodenal stent in a one-hour time slot. We were not only successful in completing both stents and the dilation, but we completed the case with time to spare.

Devices and Accessories

- Hercules 3 Stage Wire Guided Balloon (HBD-W-18-19-20)
- Fusion OMNI-Tome with DomeTip Sphincterotome
- Preloaded with Acrobat Calibrated Tip Wire Guide (FS-OMNI-ACRO-35-205)
- Evolution Biliary Controlled-Release Stent – Uncovered (EVO-10-11-6-B)
- Evolution Duodenal Controlled-Release Stent – Uncovered (EVO-22-27-9-D)

Presentation and Diagnosis

A 73-year-old patient with known pancreatic cancer had a plastic biliary stent that was placed at smaller community hospital. The biliary stent was blocked and the clinicians at that hospital attempted a stent change but were unable to pass the scope through the patient's duodenum due to a malignant duodenal stricture. The patient was referred for duodenal stricture dilation, replacement of biliary stent with metal stent and placement of duodenal stent. If this procedure proved to be unsuccessful then the patient would have required surgical double bypass.

Procedure

The patient was sedated with a combination of Fentanyl and Versed and placed in recovery position. We used the Olympus therapeutic gastroscope first to visualize the duodenal stricture. I was able to visualize the terminal end of the stricture and decided to go straight to a Cook wire-guided 18-19-20 mm Hercules balloon and successfully dilated the stricture to 20 cm.

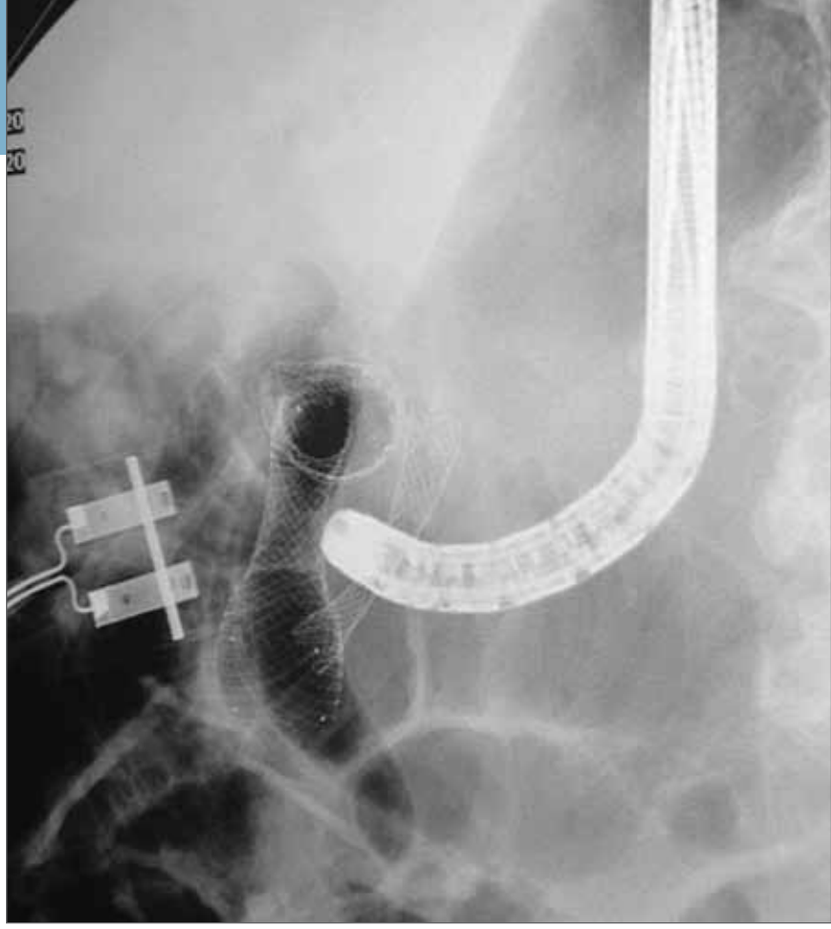

Figure 1

We then switched to an Olympus duodenoscope to complete the biliary portion of the case. The plastic stent was removed. I then used the Fusion OMNI-Tome Preloaded with Acrobat Calibrated Tip Wire Guide to cannulate the common bile duct and outline the biliary stricture, which was 2 cm in length at the very distal portion of the duct. I then placed the 4 cm Evolution Biliary stent across the stricture with good placement and relief of biliary obstruction.

We then switched back to an Olympus therapeutic gastroscope to place the Evolution Duodenal stent. The stricture was measured at 6 cm and I chose the 9 cm Evolution Duodenal stent to be most appropriate. Because of the successful dilation I was able to place the stent delivery system across the stricture without needing a guide wire.

We then deployed the stent across the stricture. There was very little migration and the deployment was very easy. The nurse assistant had never placed a duodenal stent before and she found the stent to be very intuitive and easy to deploy.

Outcome

The desired outcome was achieved. We were able to use the balloon dilator to allow replacement of biliary stent and metal stent, then place a metal duodenal stent all in an outpatient setting within the allotted one-hour procedure time. The patient received complete palliation of symptoms. ■

Evolution® Stents for Relieving the Anatomic Difficulties of Post-Gastrojejunostomy

Professor Ji Ming
Member of the Committee and
Deputy Secretary-General
Chinese Society of Digestive Endoscopy
Chief Physician
Friendship Hospital
Beijing, China

Case 1

Recently, a 66-year-old patient from the Surgery Department was referred to our Endoscopy Center because of the anatomic stricture of post-gastrojejunostomy. We initially did an endoscopy check and found that the residual part of the stomach had very smooth mucosa on the inner surface.

When we advanced the endoscope to the anastomotic stoma, we saw the distal part beyond the stoma had an obvious stricture, which the endoscope could not traverse. We than tried an ERCP catheter and a .035-inch guide wire; unfortunately, they didn't overcome the stricture.

We then shifted to a fully hydrophilic guide wire and with hard efforts, the guide wire made a large loop and went over the stricture to the distal part of the jejunum (*Figure 1*). After injecting contrast, we could see an 8 cm long stricture (*Figure 2*). We then changed to a .035-inch guide wire and advanced an EVO-22-27-12-D (Cook Medical Controlled-Release stent) to the stricture (*Figure 3*).

The sheath of the stent system went through the stricture with difficulties and was shaped like a "figure-8 curve." With the controlled-release function, the stent deployed very well and the stent position was good (*Figures 4 and 5*). After operation, the patient was sent back to the Surgery Department ward. The patient recovered well and was discharged from the hospital three days later.

Case 2

A 49-year-old patient had formerly received a gastrojejunostomy. There was also a metallic biliary stent implanted because of a distal stricture of the common bile duct. When we saw the patient again four months later, the patient was experiencing jaundice and was suspected of having an obstruction within the implanted metallic biliary stent. So, we anticipated that an ERCP and new biliary stent exchange might be needed. The duodenoscope advanced to the second part of the duodenum where we detected an obvious stricture and the endoscope couldn't go through.

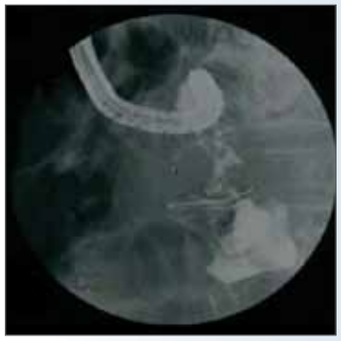

Figure 1

Figure 2

Figure 3

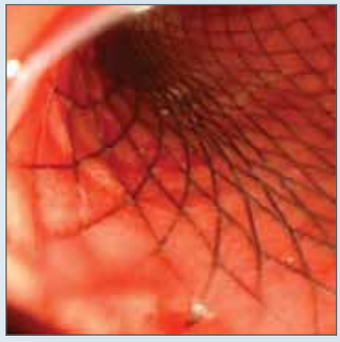

Figure 4

Figure 5

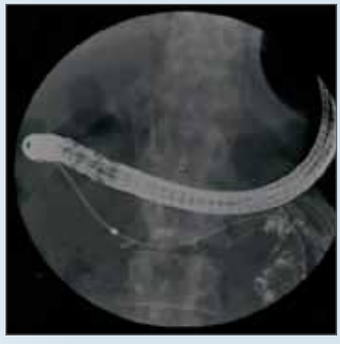

Figure 6

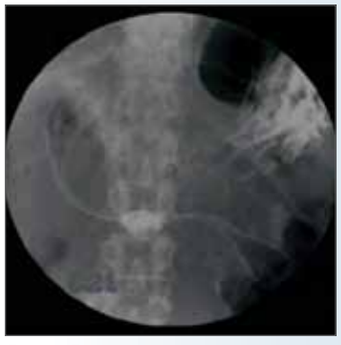

Figure 7

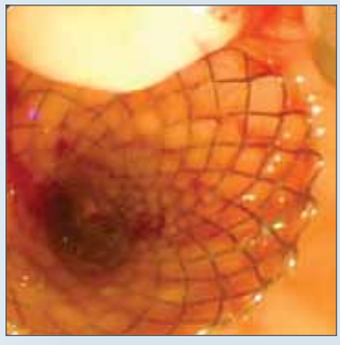

Figure 8

Under fluoroscopy, we could see the formerly implanted biliary stent (*Figure 6*). With repeated efforts, a fully hydrophilic guide wire eventually went over the stricture to the distal part of the jejunum. After injecting contrast, we saw two stricture sites, each about 3.5 cm in length. We then changed to a .035-inch wire and inserted an EVO-22-27-12-D (Cook Medical Controlled-Release Duodenal stent), which went along with the guide wire in an "S-curve" to the strictures and through the strictures with much effort. The stent was deployed successfully (*Figures 7 and 8*), placed in an ideal position, and the contrast flow went through the dilated stricture successfully.

Evolution Stents for Relieving Anatomic Difficulties, continued on page 9

Evolution® Colonic Stent as a Bridge to Surgery

Michael Hünerbein, MD
Professor of Medicine / Surgeon
Department of Surgery and Surgical Oncology
Helios-Hospital Berlin
Berlin, Germany

Indication for Procedure

The laparoscopic resection of colorectal carcinomas are, more and more, replacing open surgery. This minimally invasive method shows equal oncological results with less perioperative pain, a better cosmetic result and a shortened period of recovery.

A contraindication for the laparoscopic procedure is an ileus with dilated intestinal loops, because of an increased risk for perforation. Here, a preoperative stenting with colorectal metal stents offers the opportunity to relieve the ileus and to perform a minimal invasive resection later.

About the Author and Facility

For the past 17 years, Dr. Michael Hünerbein has performed all current endoscopic examinations and interventions, including gastroscopy, colonoscopy and ERCP. The Helios-Hospital Berlin has longstanding experience in stenting, including colorectal stents. The hospital is certified as a reference center for surgical endoscopy by the German Society of Surgery.

Device and Accessories

A standard colonoscope and a fluoroscope are used in this procedure. For the x-ray image, a water-soluble contrast is used. (*Figures 3a-3c*). The stenosis is probed using a guide wire with a hydrophilic tip. Over the guide wire, an uncovered Evolution Controlled-Release Colonic stent (available in lengths of 6, 10 or 12 cm) is pushed through the stenosis. The distal end of the stent is deployed and the positioning rectified, as the situation requires. When positioned correctly, the stent can be fully deployed.

Presentation and Diagnosis

In the rescue center, a 43-year-old patient presented with significant abdominal pain and vomiting. The pain persisted for two days with increasing intensity. There was no stool for the last four days. Clinically the patient showed a distended abdomen with meteorism and tenderness on palpation. Inflammation values were slightly raised (CRP 18 mg/l, Leucocytes 12 Gpt/l). A computer tomography confirmed the suspected diagnosis of a colonic ileus with dilated small and large bowel loops (*Figure 1*). The cause for the ileus was a stenosing sigmoid carcinoma. Theoretically, there was an indication for a laparotomy with resection of the tumor and creation of a stoma or creation of a stoma alone. As an alternative, we preferred a stent implantation and afterwards an elective laparoscopic resection with an anastomosis.

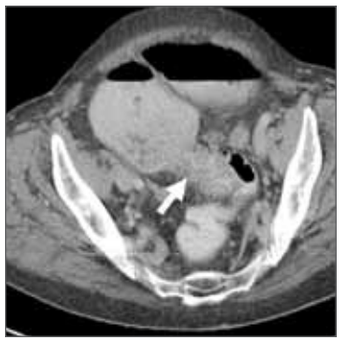

Figure 1

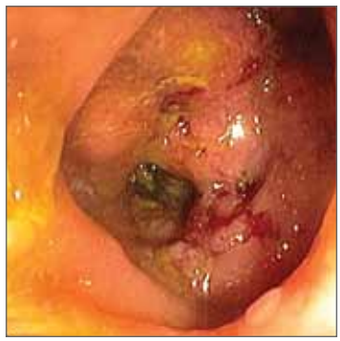

Figure 2a

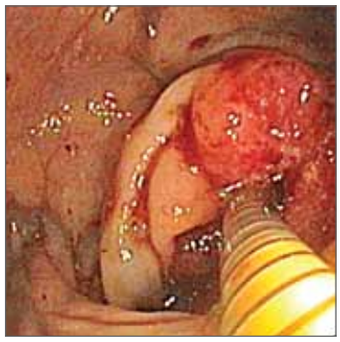

Figure 2b

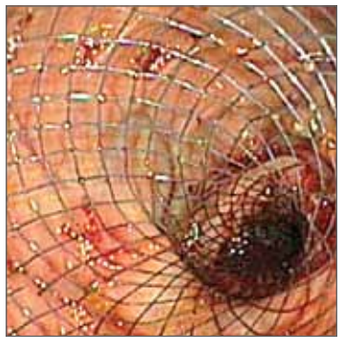

Figure 2c

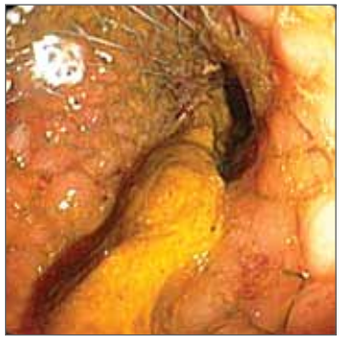

Figure 2d

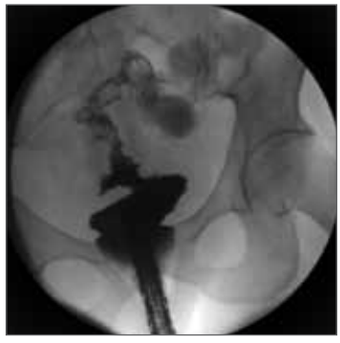

Figure 3a

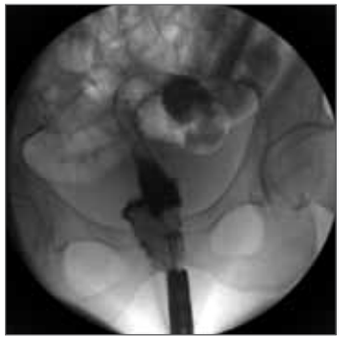

Figure 3b

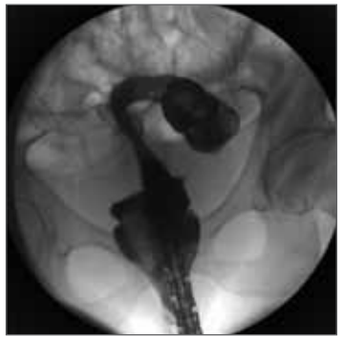

Figure 3c

Procedure

On admission day, the patient underwent a colonoscopy. The examination was performed with additional ECG, oxygen saturation and blood pressure monitoring. The patient was sedated by

Evolution Colonic Stent as a Bridge to Surgery, continued on page 9

Mayo Clinic Study Finds Endoscopic Option as Effective as Esophagectomy in Early Esophageal Cancer

Michael B. Wallace MD, MPH
Professor of Medicine
Mayo Clinic in Florida

Use of a minimally invasive endoscopic procedure to remove superficial, early stage esophageal cancer is as effective as surgical intervention, according to a study by researchers at Mayo Clinic in Florida. The research, published in *Clinical Gastroenterology and Hepatology*, examined national outcomes from endoscopic resection treatment compared to esophagectomy.

"Our study on national outcomes, as well as our own experience with the procedure at Mayo Clinic in Florida, suggests that both procedures offer similar chances for cure and long-term survival," according to Michael B. Wallace, MD, a gastroenterologist at Mayo Clinic in Florida. "Patients now have the option to preserve their esophagus when only early stage cancer is present."

Study researchers examined national outcomes from the two procedures in patients with esophageal adenocarcinoma, the most common type of esophageal cancer in the US. The research team examined data from the National Cancer Institute's Surveillance, Epidemiology and End Results (SEER) database.

They identified 1,619 patients with superficial, early stage esophageal adenocarcinoma who had endoscopic therapy (19 percent) or surgery (81 percent) from 1998 through 2009. Many of these patients were treated for cancers that arose from Barrett's esophagus, a condition in which the cells in the lower part of the esophagus morph into a precancerous state.

The researchers collected survival data through the end of 2009, and found that endoscopy therapy increased progressively – from 3 percent in 1998 to 29 percent in 2009 – and was more often used in older patients. After adjusting for patient and tumor factors, the researchers concluded that patients treated by endoscopy had similar overall survival times compared to surgery.

"Endoscopy therapy for early stage esophageal cancer is becoming an acceptable method for all patients with very early esophageal cancer," Dr. Wallace said. He adds that because of its complexity the procedure is generally offered at centers that have extensive experience in a multidisciplinary approach to endoscopic therapy.

Dr. Wallace hopes that this and other studies will encourage at-risk patients to get screened and follow up with their physicians. "We hope that patients and their physicians will continue to comply with follow up for Barrett's esophagus," he said. "This treatment option is limited to patients with very early cancer and high-grade dysplasia (pre-cancerous), so it is very important to follow surveillance schedules to catch the disease early. Later-stage cancer will still require surgery, often with chemotherapy and radiation."

As to expanding the adoption of EMR in practice, Dr. Wallace feels that training is key. "There are a number of training options through centers of excellence, such as Mayo Clinic, and there are now such centers in virtually every region of the US. As with all complex procedures, the outcomes are best if done in centers with high volume and all the necessary technologies." ■

Co-authors of the study include Mayo Clinic gastroenterologists Saowanee Ngamruengphong, MD, and Herbert Wolfsen, MD.

New Evolution Biliary, continued from page 1

Procedure

The patient was given prophylactic antibiotics and brought to the endoscopy suite. The procedure was performed under general anesthesia. Using standard ERCP technique, the endoscope was positioned near the ampulla, which was normal appearing without any bile flow noted. The common bile duct was cannulated with a standard sphincterotome and a .035" Acrobat Calibrated Tip Wire Guide. This wire was chosen as the bile duct was significantly decompressed and accessing the proximal duct would likely be difficult. Once the wire was seen advancing into the intrahepatic ducts, a cholangiogram was obtained. The cholangiogram showed a significantly dilated proximal CBD at 18 mm without contrast seen in the distal 5 cm. A small sphincterotomy was performed without any bile flow noted.

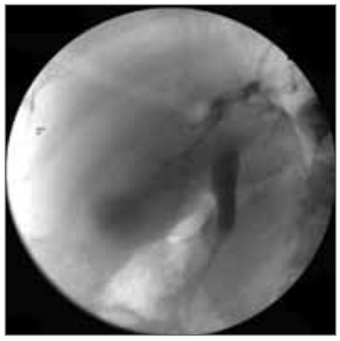

Figure 3

An 8 cm Evolution Controlled-Release uncovered biliary stent was advanced into the common bile duct over the wire guide. The stent was positioned to traverse the stricture and slowly deployed using the controlled-release mechanism. Under fluoroscopic guidance the stent was re-positioned to an optimal position and then deployed. There was a significant gush of dark bile and biliary debris and stones.

Outcome

The procedure was technically successful as biliary flow was restored. There was an immediate response in terms of serum bilirubin and symptomatic pruritus. The patient was able to start palliative chemotherapy and on most recent labs 4 months post procedure the bilirubin remains normal. The patient was very satisfied with the procedure. ■

New Study Comparing Multiband Mucosectomy and Endoscopic Submucosal Dissection

Endoscopic Resection of Early Esophageal Squamous Cell Intraepithelial Neoplasia

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Sichuan, China

Early esophageal squamous cell cancer (ESCC) is one of the most common reasons for cancer-related death all around the world and approximately half of the ESCC cases occur in China. Many areas in China have a high incidence rate of ESCC, and many of the areas are less-developed areas. So, most of those patients are found in middle-late stages and the long-term prognosis is poor.

The major method of treating the ESCC is scanning the patients and resecting the mucosal lesions endoscopically. Recently my colleagues and I have finished a research study on the treatment of ESCC with two different endoscopic methods, the endoscopic submucosal dissection (ESD) method vs. the multiband mucosectomy (MBM) method.

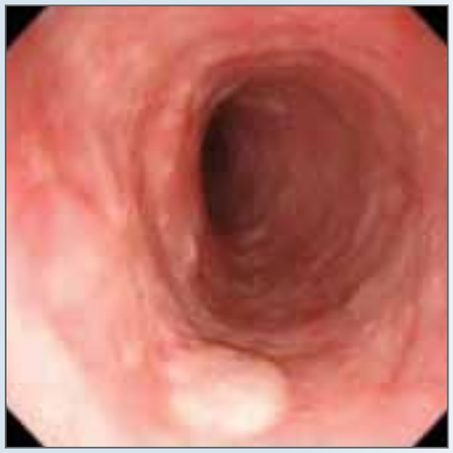
In total, we chose 92 patients, who were diagnosed with squamous cell HGIN or ESCC and divided them evenly into two groups: the ESD group and the MBM group. I performed all the endoscopic resection procedures for these patients.

During the study, we compared the parameters of the two groups in the aspects of: procedure time; number of complete resection lesions; procedure-related complications; maximum specimen diameter and thickness; hospital stay and costs of disposables; and number of recurrence lesions. Patients from both groups had been followed up at one, three, six and 12 months, and then annually after the endoscopic resection procedures.

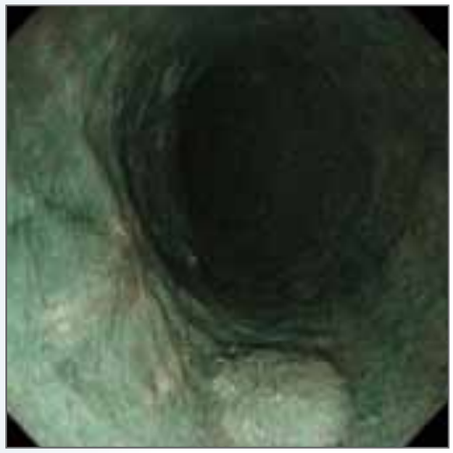
For the two groups (46 pts in ESD, and 46 pts in MBM), there was no significant difference on resected specimens, no significant differences were found on complications, the differences of recurrence rates between MBM and ESD groups are not significant. The MBM method applies a 20% overlap to reduce the risk of relapse. However, the mean operation time required for the MBM is less than half of the ESD operation time. Also, the MBM group had shorter hospital stays and lower cost of procedure disposables.

Endoscopic resection (ER) is considered to be the best choice for treating early esophageal squamous cell cancer and its precancerous lesions because of its microinvasive features. ESD was the main technique of ER since it can provide complete resection of huge and deep lesions, accurate pathology analysis and low recurrence rates. MBM is a brand new technique for resection of early esophageal cancers and was originally designed for endoscopic resection of Barrett's neoplasia in western countries, whereas it is rarely reported in treating early ESCC in oriental countries. From our research, we found that MBM is safer and more efficient and the follow-up outcome is similar with ESD. However, MBM shows great advantages in ease of use, shorter procedure time, hospital stay and lower costs. It therefore may be preferred for endoscopic resection of early esophageal squamous cell intraepithelial neoplasia. ■

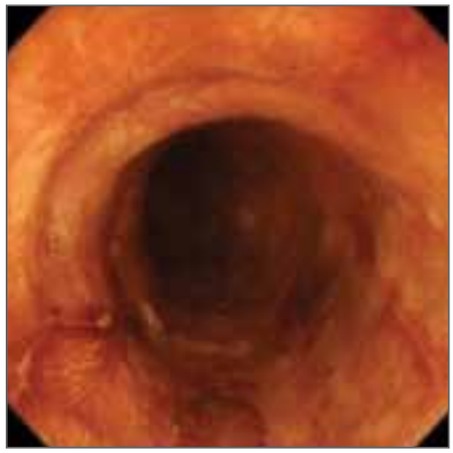
MBM procedures for neoplastic lesions of esophagus:



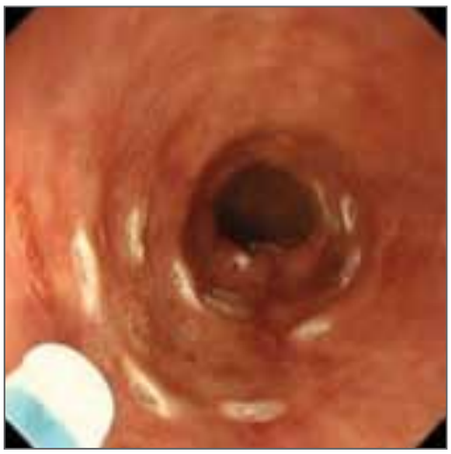
a. White light observation



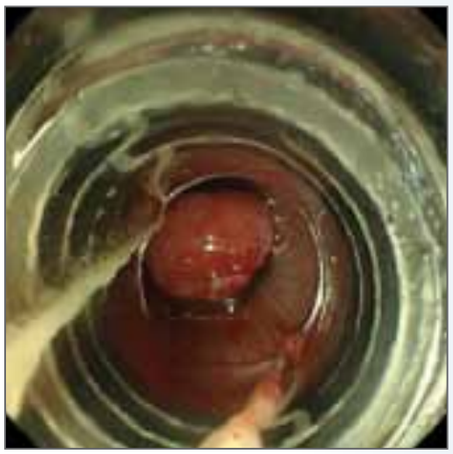
b. Narrow band imaging



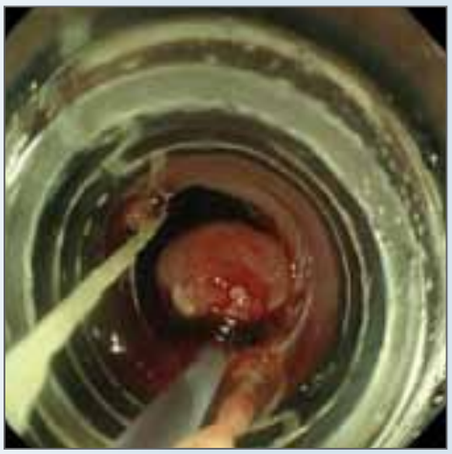
c. 2% Lugol's staining



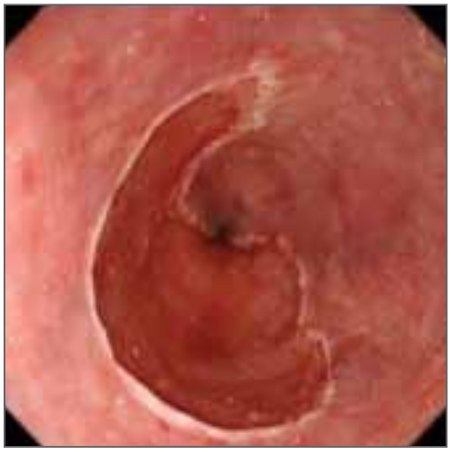
d. Delineation with coagulation marks



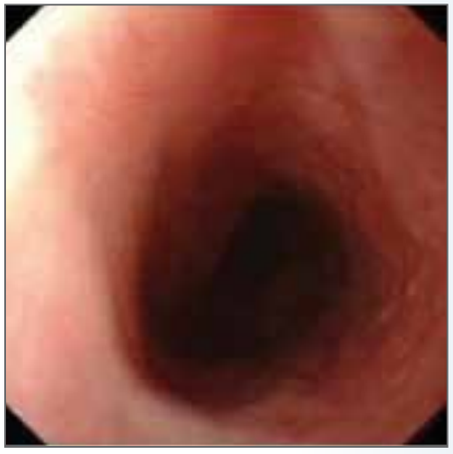
e. Creation of pseudopolyps by releasing rubber bands



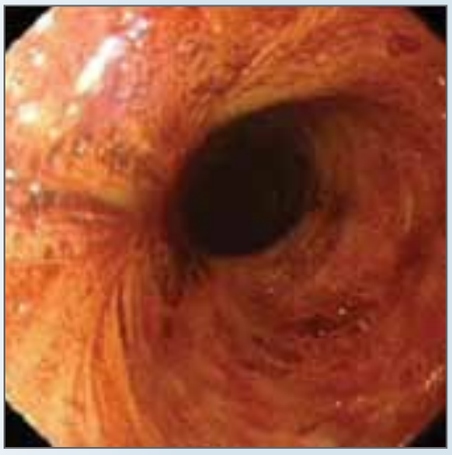
f. Resecting pseudopolyps by a snare underneath the rubber band



g. Resection wound



h. At 3-month follow-up, white light observation of the resection scar



i. Lugol's staining of the resection scar at 3-month follow-up

Evolution Stents for Relieving Anatomic Difficulties, continued from page 5

Conclusion

Every year, we diagnose and treat many patients with strictures or obstructions who are referred from the Surgery Department. For the stricture or obstruction caused by the malignant change, or the acute intestinal obstruction that needs surgery, or the anastomotic stoma stricture after surgery, self-expanding enteral metal stents can play a very important role in treatment.

When overcoming the stricture or obstruction, the stent system successfully reaches at the exact site of deployment, which is a very important step. But the following step of successfully deploying the stent over the stricture is more challenging. The Cook Evolution stent system has a very pushable and kink-resistant Flexor sheath, which helps ensure the stent system goes through the stricture and, even with extreme curves and bending, the stent can be deployed completely. ■

Evolution Colonic Stent as a Bridge to Surgery, continued from page 6

Disoprivan (Propofol, 100 mg, fractioned). Twenty centimeters from the anus, a stenosing tumor was found, leaving only a filiform rest of the lumen. Under contrast, a 4 cm long high-grade stenosis showed (*Figures 2a-2c*). The stenosis was probed with a guide wire. Through the scope and over the wire guide, a 10 cm uncovered Evolution self-expanding metal stent was placed (25 / 30 mm in diameter), so it was proximally and distally a few centimeters longer than the stenosis (*Figure 3c*).

Outcome

Defecation happened immediately through the stent (*Figure 2d*) and the abdomen of the patient was relieved increasingly.

Three days after stent implantation, a laparoscopic sigma resection could be performed under routine circumstances. A continence-preserving resection without stoma creation could be achieved. Histologically, an adenocarcinoma with wall penetration (T3) was diagnosed. The lymph nodes were not infested, so chemotherapy was not necessary. The patient could leave hospital seven days after the laparoscopic resection.

Because of the stenting, the complication risk of an emergency laparotomy in the ileus could be decreased and a stoma could be avoided. ■

Multiband Mucosectomy in Persistent High-Grade Dysplasia

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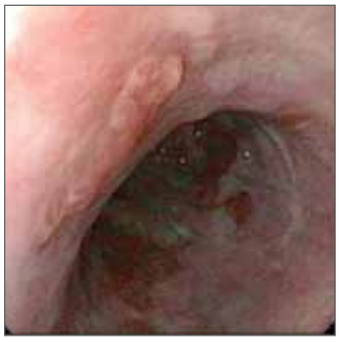


Figure 1

Figure 2

Figure 3

Figure 4

Case History

A 45-year-old patient who underwent a Nissen fundoplication six years prior for gastroesophageal reflux disease had heartburn symptoms for 20 years.

On endoscopy, the patient's Barrett's disease demonstrated a long segment (Prague Criteria C9M10) without nodules with areas of HGD at multiple levels extending throughout biopsy surveillance. Previous surveillance had demonstrated multi foci areas of LGD. We proceeded initially with RFA ablation using Halo 360 and, over the next twelve months, two further sessions utilizing a 90-degree catheter was performed to treat residual islands. During the last procedure, two co-located small nodules (at 35 cm from the incisors) were evident (*Figure 1*) and were re-biopsied prior to RFA. This demonstrated persistent HGD.

Procedure

We proceeded with a follow-up procedure with planned EMR. Endoscopic examination demonstrated a small 1 cm tongue of Barrett's esophagus at the gastroesophageal junction with some smaller patches of Barrett's proximally. Cook's Duette EMR apparatus was used to target the nodules (*Figure 2*) and the first band placement captured the majority of the nodule and resected. (*Figure 3*) Subsequent smaller areas of residual Barrett islands were also removed using the same EMR-ligation technique. At the conclusion of the procedure, the mucosa was inspected and a small raised area (*Figure 4*) was located next to the defect from the nodule resection site. This was subsequently removed. Histopathological examination demonstrated areas of high-grade dysplasia within the nodule and a tiny focus of high-grade glandular dysplasia within the adjacent raised area.

The patient will return for a repeat endoscopic examination in three months time to review site of EMR and ensure Barrett's eradication.

Teaching Points

Endoscopic surveillance of Barrett's disease with dysplasia needs to be stressed and surveillance cannot be ceased post performance of anti-reflux surgery.

Despite RFA therapy, this patient proceeded to develop high-grade dysplastic nodules. Whilst this case was slightly atypical with RFA ablation (in the absence of a nodule at commencement of treatment) preceding the need for EMR, ablative therapy (regardless of modality) should be utilized for eradication of abnormal Barrett's epithelium but is insufficient for nodule management. This is especially pertinent given early malignancies are most common within nodules and EMR allows for definitive histological diagnosis.

The EMR-ligation technique is a safe and effective method in the management of Barrett's oesophagus. As with all EMR techniques, the initial mucosal capture plays a key role in its success. After ligation capture, the captured mucosa should be inspected to determine whether abnormalities exist outside of capture, hence necessitating likely further resection of this area.

If treatment for Barrett's with high-grade dysplasia is to commence, complete Barrett's eradication needs to be the ultimate goal. To achieve this may eventually require multiple procedures and should continue until this is reached. ■

New Innovation Centre Strengthens Cook's Commitment to Collaboration

When Cook Medical opened its new state-of-the-art Research and Development Innovation Centre in Limerick, Ireland, it further strengthened the company's commitment to collaborating with physicians to create better clinical solutions.

"We are excited that Cook Medical in Limerick now has its own Innovation Centre dedicated to collaborating with physicians," said Bill Doherty, EMEA Vice President of Cook Medical. "We are looking forward to welcoming doctors and surgeons from across Europe and further afield as we work towards creating much needed innovative devices for patients throughout the world."

Equipped with the latest technology to recreate and simulate clinical conditions, the centre will enable improved device testing and better product design outcomes. "Our best ideas have come from listening to physicians who are always seeking less invasive ways to treat patients," said Doherty. "This approach to product development was established from Cook's earliest beginnings with Dr. Charles Dotter and it continues today. Our process always starts with listening to doctors' needs."

Dr. Jan-Werner Poley, Head of Endoscopy at the Erasmus Medical Centre, Rotterdam, who was on hand for the opening, said, "I'm sure that with the creation of this fantastic Innovation Centre, the collaborative relationship between engineers and clinicians can become even better than it already is today. Having been involved in the development of several Cook Medical endoscopy devices, I feel confident that I have the tools I really need. Cook's Research and Development team helps me turn my ideas into reality. I am pleased that the brand new Innovation Centre will allow even more physicians to cooperate with Cook in this way."

The Innovation Centre, together with the expansion of cleanrooms, packaging, storage and other facilities in the Limerick plant, represents a substantial investment in the future by Cook Medical and also has the support of Department of Jobs, Enterprise and Innovation through IDA (Industrial Development Agency) Ireland. ■

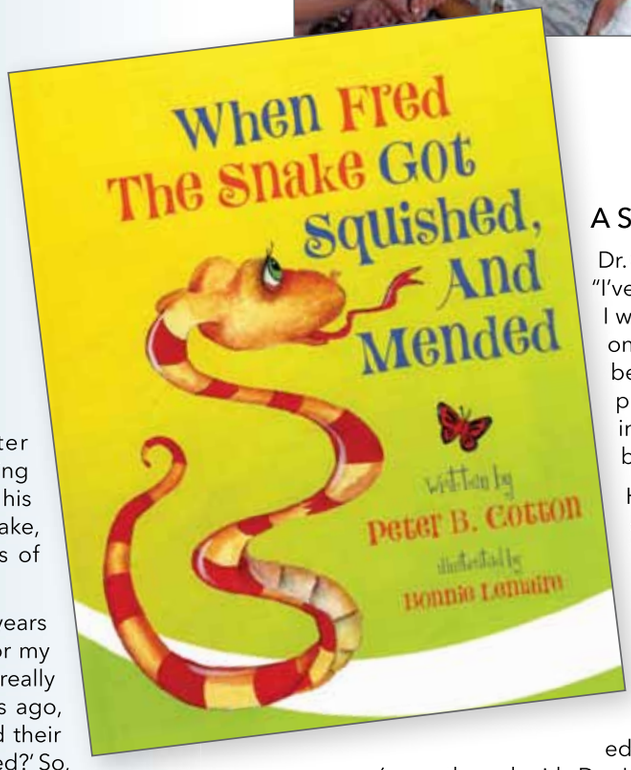
Research and Development Lab in the new Innovation Center in Limerick, Ireland

The grand opening of the Research and Development Innovation Centre in Limerick, Ireland. From left: Andrew Vogelaar (Head of Medical Technologies, IDA Ireland), Minister Richard Bruton (Ireland Minister of Jobs, Enterprise and Innovation), Bill Doherty (EMEA Vice President of Cook Medical), Dr. Jan-Werner Poley (Head of Endoscopy, Erasmus Medical Centre, Rotterdam) and John Neilan (Director of Engineering, Cook Medical).

From left: Rebecca Fitzgerald (Research and Development Engineer, Cook Ireland), Don Barry (President, University of Limerick), Tom White (Project Management), Minister Richard Bruton, Mike McDonald (Project Management) and Bill Doherty (EMEA Vice President of Cook Medical).

Dr. Peter Cotton Publishes Successful Series of Children's Books

Dr. Peter Cotton



When renowned endoscopist Dr. Peter Cotton talks about "Fred," he's not referring to a colleague or a GI fellow or to one of his students. He's talking about a Fred the Snake, the main character in his popular series of children's books.

"Fred the Snake originally came to life 40 years ago when I was writing bedtime stories for my young children," says Cotton. "But I didn't really get back to Fred until three or four years ago, when my grown children, after they'd had their own kids, said to me, 'What happened to Fred?' So, I went back and found the original Fred stories that I'd written, edited them and found a marvelous illustrator, Bonnie Lemaire, who helped bring Fred to life."

That first book, *When Fred the Snake Got Squished and Mended,* was initially self-published in 2010. But when Dr. Cotton was presenting his book to vendors, one of the bookstore owners put him in touch with a local publisher, who produced the book in hardback in 2012. The book went on to win a "StoryTime Jam! This Book Rocks" Award in New York, which recognizes books that captivate children's imaginations with unique and inspiring characters, imaginative illustrations and poetic writing.

Two more Fred books followed: *When Fred the Snake Goes to School,* and *When Jungle Jim Comes to Visit Fred the Snake*. A third is in the works: *When Fred and Jungle Friends Explore Charleston and Dewees Island*. Dewees Island, South Carolina, is where he and his wife Marion currently reside. He currently serves as Professor of Medicine in the Digestive Disease Center—which he founded and served at its first director—at the Medical University of South Carolina in Charleston, South Carolina.

A Storied Career

Dr. Cotton is no stranger to authorship. "I've been writing like crazy all my life. I wrote a fair amount of poetry early on but didn't write for pleasure much beyond that. Since then, I've written pretty close to a thousand articles in medical literature and a dozen books."

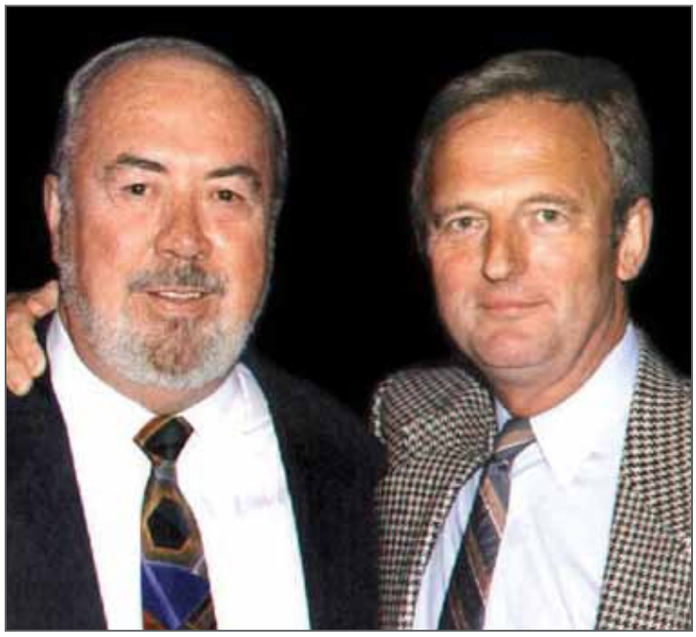
He just finished work on the seventh edition of his *Practical Gastrointestinal Endoscopy* (co-authored with Christopher Williams), which has become a standard teaching text and has been translated into eight languages. He is currently working on the second edition of *ERCP: The Fundamentals* (co-authored with Dr. Joseph Leung). *The Tunnel at the End of the Light: My Endoscopic Journey in Six Decades* is Dr. Cotton's popular and amusing memoir about his life and long, distinguished career. All proceeds from the memoir benefit the Peter Cotton Endoscopy Training Fund, which supports travel grants for those who want to gain more experience in advanced endoscopic procedures.

Born in England, where his father was a rural family physician, Dr. Cotton graduated from Cambridge University and St. Thomas Hospital Medical School (London) and then developed the Endoscopy Laboratory at St. Thomas' Hospital while still officially in training. He brought pioneering ERCP techniques back from Japan and, in 1973, was appointed to the faculty of the Middlesex Hospital and Medical School (London) as Director of Gastroenterology, where he developed a new department, integrating medical and surgical gastroenterology, with an emphasis on endoscopic therapy and teaching. His group pioneered many diagnostic and therapeutic endoscopy procedures, particularly ERCP (sphincterotomy and stenting) and he was very active in teaching.

In 1986 Dr. Cotton left England for the United States to become Professor of Medicine and Chief of Endoscopy at Duke University, Durham, North Carolina. There he developed a state-of-the-art endoscopy center, maintained his interests in teaching (mainly through live video courses), new techniques, and careful outcome evaluation.

He moved to Charleston, South Carolina in 1994 to initiate the Digestive Disease Center at the Medical University of South Carolina (MUSC). The center was among the first to provide a multidisciplinary environment to provide patient-friendly, cost-effective care, and to support the pursuit of research and teaching necessary to enhance that care. It has seen huge growth in many areas, and has been recognised often as one of the top fifty digestive disease programs in the US. Though Dr. Cotton retired from active clinical practice in 2011, he continues doing research and teaching at MUSC.

Dr. Cotton has been active in many national and international organizations, and has given invited lectures and demonstrations in over 50 countries. He helped form the British Society for Digestive Endoscopy and served the British Society of Gastroenterology as its vice president and treasurer. He was secretary of the European Society for Gastrointestinal Endoscopy and president of the Pancreatic Society of Great Britain. He is an honorary member of the British Society of Gastroenterology, the Hong Kong Society for Digestive Endoscopy and the South African Gastroenterology Society. Dr. Cotton was awarded the Rudolph Schindler award of the American Society for Gastrointestinal Endoscopy in 2004.



Don Wilson and Dr. Peter Cotton

Collaborating in Endoscopy and in Publishing

As one of the pioneers of digestive endoscopy, it was only natural that Dr. Cotton was among the first clinicians to partner with Cook Medical's Endoscopy division. In the earliest days of the company, he worked closely with division co-founder Don Wilson on a variety innovative devices, such as the Cotton Cannulatome and the Cotton-Leung Stents, which are still among the company's bestsellers some thirty years later.

"Don was one of my great heroes," says Dr. Cotton. "He, without question, was very important in the early days of the nineteen eighties and nineties in supporting and developing the early leaders in the GI endoscopy field with training centers, fellowships, teaching meetings. He was always enthusiastic about education and I and many other early endoscopists owe him a great deal. He was a real star.

"Before Don Wilson and Bill Cook partnered to form Wilson-Cook, no one was selling endoscopic accessories. So, when they began to manufacture accessories, it was a real breakthrough. Before that, we were making our own accessories, making stents using just rolls of plastic tubing with a steam kettle on the side to help mold them into the shapes we needed!"

Just as in the world of endoscopy, in his career as a childrens' book author, Dr. Cotton is again finding that collaboration is a key to success. "Whether one is collaborating with clinicians or collaborating with illustrators and publishers, there are some similarities. Chief among them is must have the capacity to respect other peoples' talents and their ultimate goals. And, one must be willing to take a team approach to whatever one is trying to achieve."

Having a Positive Effect on Patients and Readers

Dr. Cotton chose to be a clinician, in part, to positively affect people's lives. That's been true, also, of his career as an author. "When I do readings at bookstores, the kids have a lot of fun. They enjoy the stories. It's very gratifying that the books are appealing to children and, hopefully, their parents, as well. There are some morals and lessons in the books, too, that can help young children as they grow. And it's fun for me, too, writing them." ■

For information on purchasing any of Dr. Cotton's children's books and his memoir, go to http://www.petercottontales.com/shop-2/.

The Evolution of SEMS

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Endoscopy Unit
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Introduction

The word "stent" originates from the name of Dr. Charles Stent, an English dentist who developed a "prosthesis" made from natural latex (Gutta-percha, a tropical tree native to Southeast Asia) to fill in the empty space inside the tooth after root canal work (1, 2). The word "stent" was then adopted by many specialties and at present it is used to describe any implant inserted into a structure that has a lumen to maintain its patency (1, 2). Dr. Charters J. Symonds was the first to record the placement of a rigid esophageal tube for palliating malignant esophageal stricture (3). Since then tubes or stents have been used to palliate almost any gastrointestinal (GI) luminal malignancy (4, 5).

Due to their modern shape and design, the use of stents has expanded to treat and palliate many other conditions, including GI leaks, perforations and fistulas (6). Moreover, the indications, delivery methods and techniques to place stents continue to expand (7-10). Self-expanding metal stents (SEMS) are now used to access cavities such as pseudocysts, enter the stomach through the skin, drain retroperitoneal collections percutaneously and even create anastomosis of the gallbladder to the stomach or duodenum (7-10). In this review we will focus on SEMS and its use to treat and palliate endoluminal GI and pancreatobiliary disorders in clinical practice.

Esophagus

SEMS are one of the pillars for palliative therapy for patients with malignant and some forms of esophageal stenosis (4, 5). In addition, SEMS are an essential tool to palliate and treat esophageal leaks, fistulas and perforations (6). SEMS have become increasingly popular as a result of improvement in design and the availability of different models.

When choosing stents as palliative therapy several aspects need to be taken into consideration such as patient condition, tumor location and characteristics, presence of fistula and previous or planned treatments such as chemotherapy or radiation therapy. The presence of leak, fistula or perforation mandates the use of a partially or fully-covered SEMS. The success of esophageal SEMS placement requires precise knowledge of the location and length of the anatomical disruption to be palliated.

Case: A 65-year-old patient presented with dysphagia to solids and liquids as well as massive weight loss. Esophagogastroduodenoscopy (EGD) and CT demonstrated an ulcerating, stenosing adenocarcinoma of the esophagus (*Figures 1A and B*). The stricture was 5 cm long

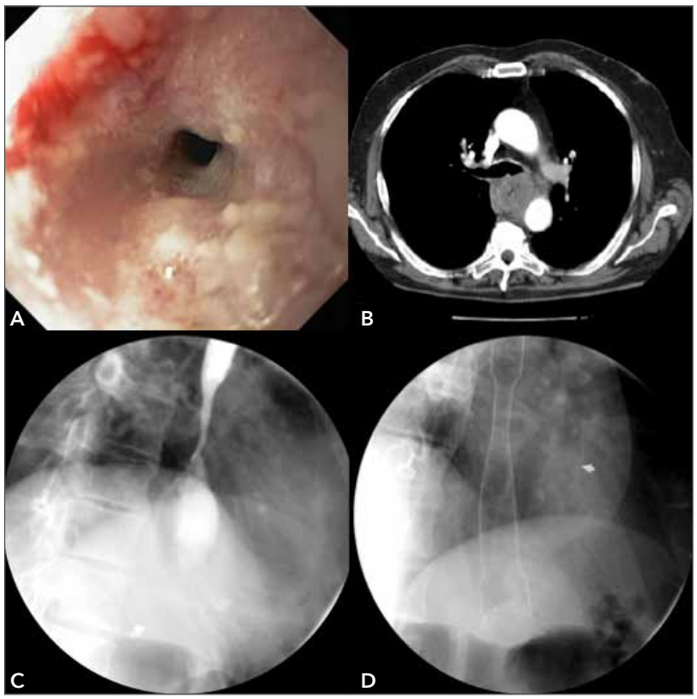

Figure 1

(*Figure 1C*). Therefore, a 120 mm long Evolution stent was inserted to bridge the stenosis (*Figure 1D*). The patient was able to resume oral intake and was also given palliative radiation therapy. On follow-up three months later, the patient's condition has improved and the patient is able to eat.

Stomach

SEMS are now a key palliative option for patients with malignant gastric outlet obstruction due to various types of cancers. Current delivery systems allow placing palliative SEMS through the scope, making a targeted delivery more feasible. However, only scopes with large (i.e. > 3.2 mm) working channels can be used (colonoscope, duodenoscope, therapeutic gastroscope).

Case: A 60-year-old patient with advanced gastric cancer presented with pyloric obstruction. Stent placement at another hospital had failed. The stricture could only be defined by injection of water-soluble contrast using a biliary catheter (*Figure 2A*). A guide wire was advanced into the upper jejunum (*Figure 2B*). The Evolution duodenal stent could be delivered through the working channel of a therapeutic gastroscope (*Figure 2C*).

The braided-to-coiled construction of the Flexor delivery catheter allowed for excellent trackability and maneuverability in this difficult angulation (*Figures 2B and C*). The tight stricture was well bridged (*Figure 2D*). The proximal and distal radiopaque markers of the Evolution SEMS provide excellent visualization for stent placement and localization. The patient has been able to eat since the stent insertion and is stable on follow-up two months later.

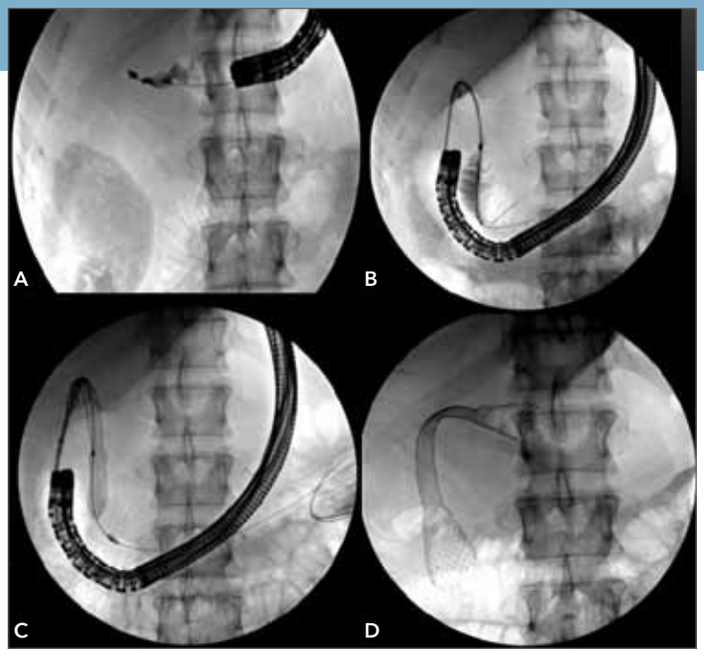

Figure 2

Duodenum and Small Bowel

The advent of deep enteroscopy methods has improved our diagnostic and therapeutic approach to small bowel disorders, including the palliation of malignant and benign stenosis. Whereas placement of SEMS is relatively easy in patients with malignant pyloric obstruction, delivery of a SEMS to the distal duodenum and small bowel may be fraught by difficulties, as the anatomy may be distorted due to massive stomach dilation and the wire may not provide enough tensile force for the stent to be delivered passed the stricture. A useful trick to deliver SEMS to the distal duodenal or small bowel strictures is using the overtube technique (6) (*Figure 3A*).

After localizing, interrogating and determining the length of the stricture using endoscopy and fluoroscopy, a guide wire is advanced through the stricture (*Figure 3B*), the scope is removed and the SEMS is the advanced over the wire and through the overtube, which serves a large "working-channel" (*Figure 3C*). The overtube's shape and strength allow for the SEMS to travel through it smoothly towards and through the stricture. This process is performed under fluoroscopy.

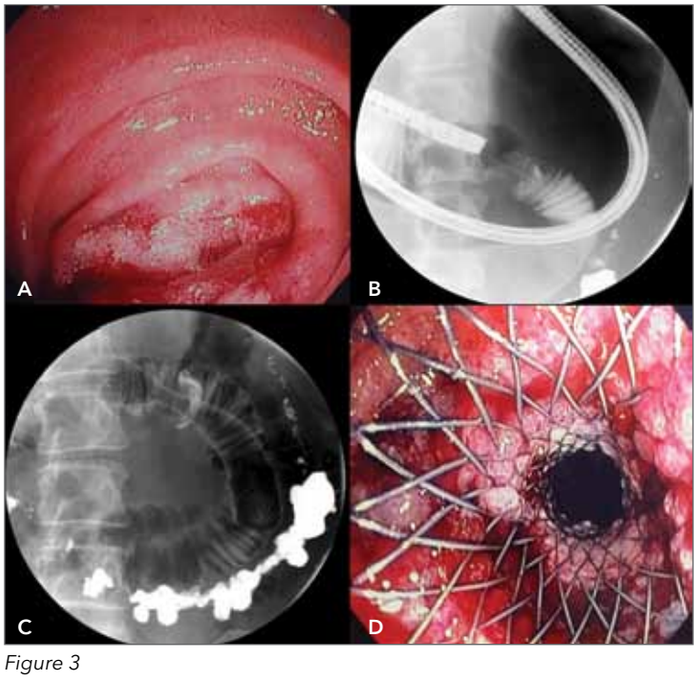

Figure 3

Once the stent is delivered, the scope can be reintroduced and a visual inspection of the proximal stent expansion can be performed (*Figure 3D*).

Colon

A large percentage of patients with colon cancer present with bowel obstruction. In addition, many other malignancies can result in bowel obstruction due to external compression. Thus, placement of a colorectal stent is indicated for preoperative decompression or for palliative purposes.

Case: A 65-year-old patient presented with sigmoid colon obstruction due to metastatic ovarian cancer (*Figure 4A*). Because the patient had almost complete bowel obstruction, a SEMS was placed to decompress the colon and serve as a "bridge to surgery." The Evolution Colonic SEMS was easily inserted using combined

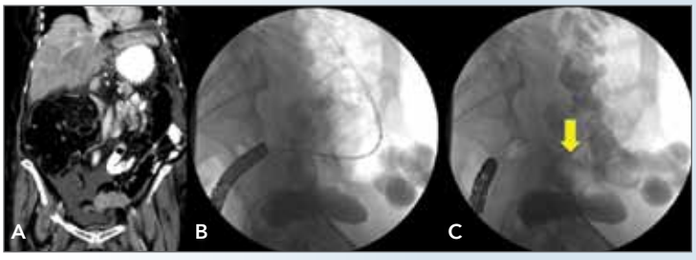

Figure 4

endoscopic-fluoroscopic technique (*Figures 4B and C, yellow arrow*). Once the colon was decompressed and the patient's condition had improved, the patient underwent exploratory laparotomy with resection of the cancerous mass, including the involved colon and SEMS. An end-to-end anastomosis of the colon was possible.

Pancreatobiliary

The two most common causes of malignant bile duct obstruction are pancreatic cancer and cholangiocellular carcinoma. Decompression of bile duct obstruction relieves jaundice, pruritus, improves appetite and reduces fat malabsorption (4). Decompression may be palliative in poor surgical candidates or only temporary in those patients undergoing potential curative resection (4).

The data clearly shows that SEMS are more cost effective for patients who survive longer than three to six months, whereas a single ERCP with placement of a plastic stent may suffice in patients with shorter life expectancy (4). Regardless of the indication, SEMS should be well selected and placed. In my practice, I prefer the Evolution Controlled-Release Stent, as it has excellent radiopaque markers and has an excellent delivery mechanism, making it a secure, safe and efficient stent. The role of SEMS to treat benign biliary conditions has been expanding. When using SEMS to treat benign conditions, a fully covered SEMS should be employed.

Case: An 88-year-old patient was referred to us for palliation of a T4N1MX pancreatic head cancer leading to biliary obstruction (*Figure 5A*). The tight, irregular, tortuous, 2 cm long, distal common bile duct stricture was palliated using an Evolution SEMS (Figure 5B). This SEMS has various radiopaque markers at its end, which facilitate the fluoroscopy placement and visualization (*Figures 5B and C*). The SEMS expanded nicely after deployment, relieving this patient's jaundice within few days (Figure 5D). The smaller diameter Evolution biliary SEMS are also excellent to provide bilateral intrahepatic bile duct drainage (*Figure 6*).

The Evolution of SEMS, continued on page 16

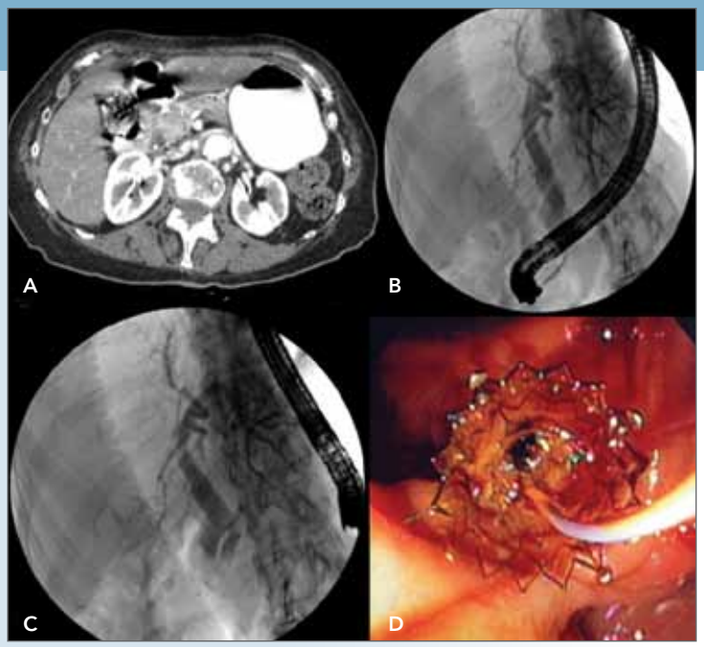

Figure 5

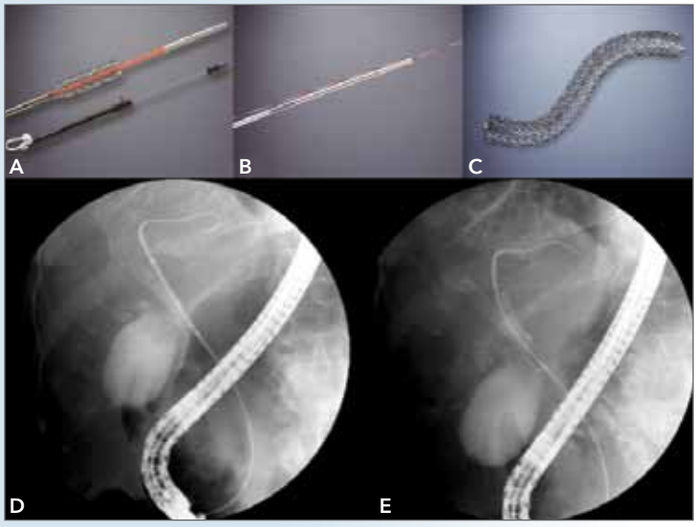

Figure 6

The Evolution of SEMS, continued from page 15

Future Directions

Additional clinical applications of SEMS in the future will likely include palliation and treatment of various other GI disease processes (7-10). The use of fully or partially covered SEMS to drain pancreatic fluid collections is being performed more frequently. This makes sense, as the thick and complex material within the cavity may not exit through small diameter plastic stents. SEMS utilization can create anastomosis within the gallbladder and stomach or duodenum (7). This palliative treatment option offers a great alternative to percutaneous drainage of the gallbladder in poor surgical candidates.

The use of SEMS to create percutaneous access to cavities (e.g. pancreatic necrosis) or luminal organs (e.g. stomach) to provide endoscopic access is expanding (9). Because current enteroscopes do not have a large-diameter channel to deliver SEMS into the bile duct of patients with surgically altered upper GI anatomy, we have developed overtube-assisted methods to place SEMS into the bile duct or perform direct cholangioscopy (8, 10). Therefore, further research into the development of small caliber delivery devices and/or specific overtubes to master difficult anatomical situations is mandatory.

Finally, fully covered SEMS may provide an excellent option to control esophageal variceal hemorrhage. The radial expansile forces of a fully covered SEMS may cause enough compression of the bleeding varices, leading to hemostasis, coagulum and fibrosis formation of the esophageal wall.

In summary, I have presented a brief description of modern uses of SEMS. The key aspects emphasized were the advances in shapes, delivery methods and techniques used to place these stents into various luminal cavities of the body thus permitting to palliate and treat a myriad of GI conditions. ■

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Potential conflicts of interest: KM has received honoraria for lectures from: Cook Medical, USA and Ovesco, USA; and has received a training grant to support international visiting fellows from Boston Scientific.

Clinical Experience with the New EchoTip ProCore® EBUS Needles

Dr. David McCormack
Professor of Medicine
Division of Respirology
London Health Sciences Centre
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The use of endobronchial ultrasound (EBUS) has become much more common recently as physicians have realized the ability of this technique to easily access mediastinal and hilar lymph nodes. EBUS has now become the procedure of choice in most centres for the mediastinal staging of lung cancer.

Typically, EBUS is performed with a 21 or 22 gauge needle, which provides samples for cytological analysis. The new Cook Medical EchoTip ProCore needles have now been developed for use in EBUS. These needles have the potential to provide more cellular specimens and even core samples for histologic diagnosis. In the fall of 2012, we completed a series of EBUS procedures on 20 patients using 22 gauge and 25 gauge EchoTip ProCore needles in patients presenting with mediastinal lymphadenopathy. We found these needles very easy to use and our pathologists were extremely pleased with the cellularity of the biopsy specimens.

Below is a summary of three cases in which we used the EchoTip ProCore needles.

Case 1

This healthy 86-year-old patient was referred for investigation of a right lower lobe lung mass. Percutaneous biopsy demonstrated adenocarcinoma. Stereotactic radiotherapy was considered; however, a PET scan demonstrated an FDG-avid right hilar node (*Figure 1*). EBUS was performed and, using a 22 gauge EchoTip ProCore needle, the 11R lymph node was biopsied, which demonstrated excellent cellularity and abundant adenocarcinoma cells (*Figure 2*). The presence of malignant hilar lymphadenopathy precluded treatment with stereotactic radiotherapy.

Case 2

This 72-year-old patient was seen for evaluation of his mediastinal lymphadenopathy (*Figure 3*). EBUS was performed and, using a 25 gauge EchoTip ProCore needle, the station 4R mediastinal lymph node was biopsied. The samples demonstrated high cellularity (*Figure 4*), and a diagnosis of small cell carcinoma was confirmed.

Case 3

This 32-year-old patient was seen for evaluation of hilar and mediastinal lymphadenopathy (*Figure 5*). There was a clinical suspicion of sarcoidosis and an EBUS procedure was performed. The station 7 mediastinal node was biopsied using a 22 gauge EchoTip ProCore needle. The biopsy demonstrated the presence of granulomata (*Figures 6 and 7*) consistent with the diagnosis of sarcoidosis.

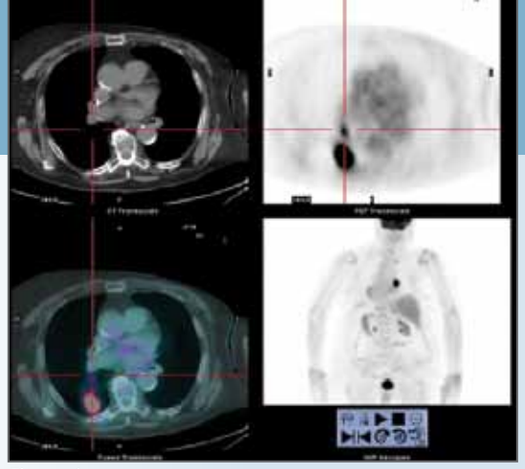
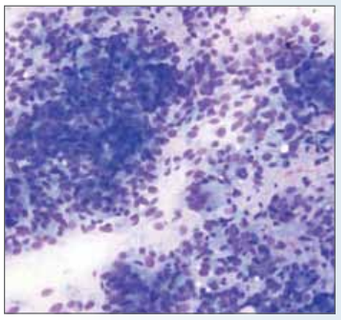


Figure 1



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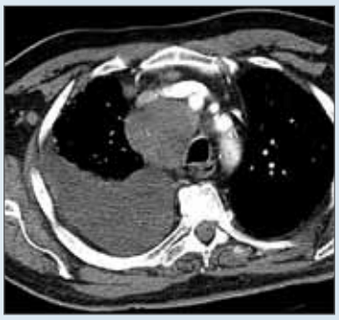


Figure 3

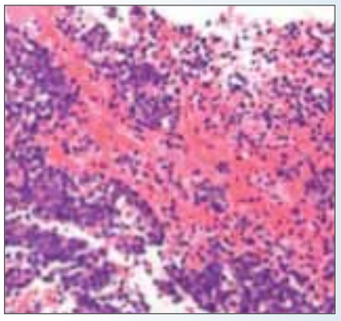


Figure 4

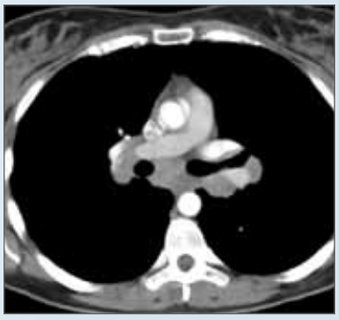
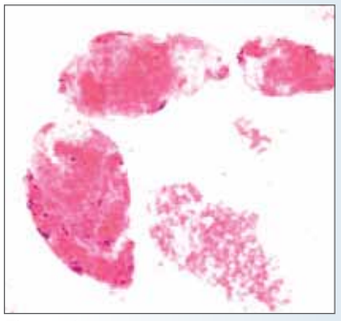


Figure 5



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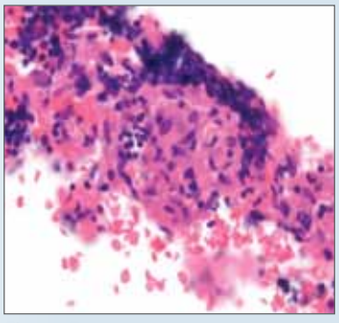


Figure 7

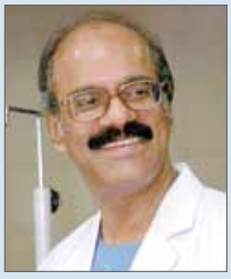
Summary

There are a variety of clinical situations when very cellular biopsy specimens are advantageous. For example, recently there has been an increased interest in tailoring the treatment of lung cancer according to specific cell surface markers (such as EGFR and ELK) identified by immunohistochemical analysis of specimens. A large number of cells are required for this testing and the excellent cellularity of the EchoTip ProCore needle specimens will likely be an advantage in this regard.

Further, in contrast to standard cytology specimens, obtaining core biopsy specimens will likely be very helpful when evaluation of histological specimens is required, such as in the diagnosis of sarcoidosis or lymphoma. ■

Images Courtesy of Dr. David McCormack, Department of Medicine and Dr. Mariamma Joseph, Department of Pathology, London Health Sciences Centre, Western University, London, Ontario, Canada.

Dual Benefits: Obtaining Cytology and Core Biopsy with the EchoTip ProCore®



D. Nageswar Reddy, MD, DM, DSc, FASGE

Sundeep Lakhtakia, MD, MNAMS, DM

Asian Institute of Gastroenterology Hyderabad, India

EUS-guided FNA is used to provide specimens for cytology. The diagnostic yield of EUS FNA depends upon the number of needle passes and the presence of an onsite pathologist. The sample adequacy increases by 15 percent when there is an onsite pathologist available. But all EUS FNA facilities do not have an onsite pathologist inside the EUS room to assist in immediate diagnoses. To remedy this situation, societies recommend increasing the number of needle passes to obtain adequate material.

That leads to the question: When do you stop making additional EUS FNA passes and how can you improve the tissue yield in absence of an onsite pathologist? The answer remains a matter for debate.

For the overall diagnosis, obtaining core tissue samples during the EUS FNA session provides an additional advantage over cytology only. Pathologists can then assess the tissue architecture and also perform immunohistochemistry (IHC) to arrive at a complete diagnosis. Making a cell block with repeated passes during standard EUS FNA is the way to obtain core tissue with either 22 or 19 gauge needle. The 19 gauge EUS FNA or Tru-Cut needles provide good quality tissue cores, but they are cumbersome and pose technical challenges for transduodenal pancreatic FNA.

The new EchoTip ProCore needles from Cook Medical (available in 19, 22 and 25 gauges) provide adequate core tissue using negative suction. The reverse bevel at the side hole located just distal to the needle tip enhances the suctioning of tissue during to-and-fro movement inside the tissue. The aspirate obtained from the EchoTip ProCore needle during EUS FNA can be used for both cytology and core tissue. Our experience at the Asian Institute of Gastroenterology in Hyderabad, India, has shown that the EchoTip ProCore needle is technically safe and provides adequate tissue from pancreatic masses or lymph nodes.

Both the 22 and 25 gauge EchoTip ProCore needles exhibit good maneuverability and endosonographers can comfortably access lesions located in any part of the pancreas, including the transduodenal approach for pancreatic head lesions. The only caveat is that the EchoTip ProCore needle is not as well suited for small (less than 10 mm) lesions or vascular lesions because of the possibility of bleeds. Also, the 19 gauge EchoTip ProCore can be used only for the transgastric or transesophageal approach to obtain core tissue.

To obtain sufficient core tissue requires an average number of 1-2 passes with the 22 gauge EchoTip ProCore, which is significantly less when compared with the standard 22 gauge EUS FNA needles. Hence, EchoTip ProCore gives clinicians the dual benefit of both cytology and core biopsy. This can lead to shorter EUS procedure times, briefer sedation, reduction of accompanying costs and increased patient satisfaction. ■

GI Nurses and Technicians Gather in Las Vegas for Interventional Endoscopy Course

Willis Parsons, MD

Kathy Quinlan RN, BS, MBA

The Sixth Annual Interventional Endoscopy Course for GI Nurses and Technicians, held February 14–15 at the ARIA Resort in Las Vegas, attracted hundreds of nurses and technicians from across the US. The course is presented by Northwest Community Hospital (NCH) of Arlington Heights, Illinois, and is directed by course founder Willis Parsons, MD, and Kathy Quinlan RN, BS, MBA.

Well-respected experts in the field of interventional endoscopy presented lectures, videos, demonstrations and hands-on workshops involving the latest diagnostic and therapeutic techniques and innovations. This highly interactive course featured presentations on GI bleeding, pancreaticobiliary anatomy, ERCP stone and stricture management, difficult colon polyps, fluoroscopy interpretation, obesity surgery, new esophageal technology, GI malignancy and much more.

The guest speakers and faculty included: Neeraj Desai, MD; Beth Diviacchi, RN,MSN, APN; James Kane, MD; Elizabeth Paddack, RN, MSN, APN; Richard Siegel, MD; Vani Konda, MD; Kevin McGrath, MD; Patrick Okolo, MD; and Adam Slivka, MD.

The annual Interventional Endoscopy Course for GI Nurses and Technicians has become one of the premier nurse and technician educational conferences in the world. For information on the next meeting, please contact your Cook representative. ■

Highlights from Shanghai: SIGNEA Quadrennial Congress/Gastro 2013

By Norah Connelly, RN, CGRN
SIGNEA Immediate Past President and Vendor Liaison

The Society of International Gastroenterological Nurses and Endoscopy Associates (SIGNEA) Quadrennial Congress / Gastro 2013 was held in conjunction in with APDW/WCOG in Shanghai, China, September 21–24, 2013. SIGNEA President Di Jones convened the meeting with opening remarks, which included the introduction of delegates and the colorful presentation of the parade of nations that were in attendance from around the world. This was followed by the keynote address, presented by Rosemary Bryant, Chief Nurse of Australia and Immediate Past President of the International Council of Nurses. Rosemary spoke on the topic of International Nursing Issues, which covered a spectrum of topics and concerns within our practice.

SIGNEA was pleased to offer our attendees sessions by renowned speakers from different countries, covering a range of topics that varied from disease entities, state-of-the-art techniques and nursing practice. There were several panel discussions highlighting differences and similarities in education, as well as in practices and technology. Infection control was of major interest for attendees and topics reflected both existing guidelines and new ideas. It is apparent that we all have one thing in common: our passion for always trying to do the best for our patients with the resources we have and a commitment to the safety of ourselves and our patients. Many abstracts and free papers were also presented. It was impressive to see the efforts and willingness to share in the interest of providing quality patient care.

Our Chinese hosts were most gracious. They gave us a warm welcome and spending time with them was a pleasure. Senior nursing students currently enrolled in the Masters in Nursing program played a major role in translating during the sessions and with questions-and-answer periods. They were truly amazing and were so attentive and happy to have us as their guests. I can't thank them enough for their warm welcome and hospitality.

As always, spending time networking with colleagues from the world is invaluable by sharing information related to our work, learning from each other and in forming lasting friendships.

We are most grateful to our corporate colleagues for their support. The vendor workshops and presentations were highly informative and proved to be of great interest to the attendees, particularly on updates in technology. It also gives some attendees the opportunity to learn about state-of-the-art equipment and to bring the information back to share with their co-workers. Industry support enables us to provide our attendees with the quality of content and information that they deserve.

SIGNEA's next congress will be held in Brisbane, Australia in 2015. We look forward to meeting you there!

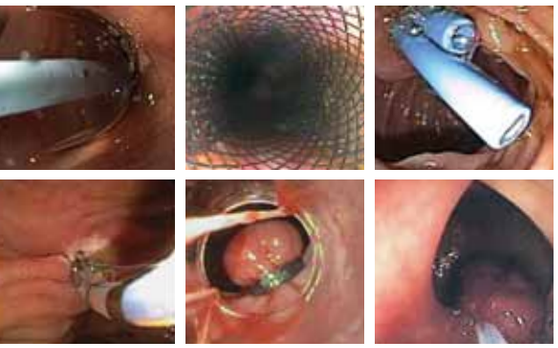
Panel on a World View of Colon Cancer Screening.

Members of SAGEN with Norah Connelly, SIGNEA.

Nursing student volunteers with leaders from around the world.

GI 360

EDUCATIONAL PROGRAMS



Cook Medical has long understood that optimal patient care is your focus, and it continues to be our focus as well. That's why for more than twenty years we have assisted healthcare professionals in learning the latest in endoscopic GI technology and related disease information.

That tradition continues as Cook Medical, in partnership with HealthStream (an accredited provider of continuing nursing education), offers these educational activities:

Upper GI Bleeding Management

Biliary Stone Management

Enteral Nutrition

These activities are presented without charge by your Cook Medical district manager. Educational activity descriptions, objectives and the related accreditation information can be found at http://www.cookmedical.com/esc/educationResource.do?id=Educational_Activity.

Contact your Cook representative for more information or to arrange a presentation opportunity.

HealthStream® COOK® MEDICAL

A continuing nursing education activity sponsored by HealthStream. Grant funds provided by Cook Medical.

2014 Upcoming Events

MAY		
May 3-5	DDW	Chicago, IL
May 3-5	SGNA	Nashville, TN
May 15-17	JGES	Fukuoka, Japan
May 16-17	Endoskopie Live	Berlin, Germany
May 22-23	Endolive 2014	Rome, Italy
May 30-June 1	IDEN	Seoul, Korea
JUNE		
June 16-19	BSG/DDF	Manchester, England
June 23-25	GEEW (ERASME) Symposium	Brussels, Belgium
AUGUST		
Aug 1-2	Update in Liver & Gastro Diseases (Univ. of FL)	Clearwater Beach, FL
SEPTEMBER		
Sept. 19-20	Oregon Gut Club	Portland, OR
Sept. 19-21	EndoFest	Las Vegas, NV
Sept. 19-21	TSGE	Austin, TX
Sept. 21-24	DGVS	Leipzig, Germany
Sept. 26-27	JBA-50th Annual Meeting of the Japan Biliary Association	Takanawa, Japan
OCTOBER		
Oct. 3-4	SGI	Korea
Oct. 6-9	Pan American Gastro 2014	Buenos Aires, Argentina
Oct. 17-19	Multi-Regional SGNA	Kalamazoo, MI
Oct. 17-22	ACG	Philadelphia, PA
Oct. 17-19	TN SGNA	Alcoa, TN
Oct. 18-22	UEG (United European Gastroenterology Week)	Vienna, Austria
Oct. 22-25	AGW	Brisbane, Australia
Oct. 23-26	JDDW	Kobe, Japan