

Combination procedure helps prevent unnecessary colon resection



Combining laparoscopy and endoscopy, UCLA surgeons and gastroenterologists have been performing a new, minimally invasive procedure to remove large and difficult-to-reach colon polyps in cases that would normally call for bowel resection surgery.

UCLA researchers recently presented their experience using the new technique — known as CELS for combination endoscopy and laparoscopic surgery — in the journal *Surgical Endoscopy*. In the study, which was the first to be published comparing CELS with standard surgical management of large and complex polyps, the new technique was successful in removing all polyps and CELS patients experienced fewer complications than did the standard-surgery patients. The next step in research will be a multi-institution study to further examine the use of CELS and better characterize its impact.

Less trauma and shorter hospital stays

CELS — combination endoscopy and laparoscopic surgery — is a great option for a subset of patients with large colon polyps that are not endoscopically removable. This procedure can help some patients avoid a bowel resection, according to Anne Lin, MD, MSHS, assistant professor of colorectal surgery.

Though most colon polyps turn out to be benign, those that cannot be entirely resected are presumed cancerous and typically treated with bowel resection. By enabling gastroenterologists to remove more polyps completely, CELS helps prevent unnecessary bowel resections.

“Newer technology is helping doctors raise the bar and offer more minimally invasive procedures with less down-time and trauma for the patient,” says Eric Esrailian, MD, co-chief of UCLA’s Division of Digestive Diseases. UCLA researchers found that the mean hospital stay was one night for CELS patients versus five days for the standard operation.

Large and complex polyps

While most suspicious polyps are routinely removed during colonoscopy, some are either too large or too awkwardly positioned to allow for normal endoscopic removal. When it cannot be completely removed for laboratory analysis, the suspicious polyp is treated with bowel resection, as if it were known to be cancerous. Since a large number of these polyps turn out to be benign, patients are subjected to the risks of resection surgery unnecessarily.

Combination procedure keeps colon intact

CELS begins like a standard colonoscopy, with the gastroenterologist advancing an endoscope inside the colon. CO₂ is used for the colonoscopy rather than room air because it is absorbed many times faster and thus reduces bowel distension, allowing the surgeon to operate simultaneously in the abdomen.

Once the polyp is in sight, the surgeon uses minimally invasive instruments inserted through two to four tiny incisions in the abdomen to monitor and carefully manipulate the colon, allowing the gastroenterologist to better access the polyp.

If the polyp is in a difficult location, such as a fold of the colon, the surgeon can gently undo the fold temporarily, giving the gastroenterologist better access. If the polyp is large and deeply embedded, the surgeon can monitor the outside of the colon and, if needed, perform minor colon wall repair after the polyp is removed. The gastroenterologist can be more aggressive in removing the polyp knowing that any damage done to the colon wall will be repaired at once.

The removed polyp is immediately sent for analysis while the team and patient wait in the operating room. The analysis takes about 30 minutes. If the polyp turns out to be cancerous, the team proceeds with standard surgery to remove the affected portion of the colon. If the polyp is benign — as is most often the case — the procedure is concluded without the need for further surgery.

The UCLA study found that CELS cut both the procedure time and the length of patients' hospital stays. Operating time averaged 159 minutes for CELS compared to 205 minutes for the standard procedure. The median hospital stay for CELS was one night, versus five for the standard operation.

Participating Physicians

Division of Digestive Diseases

Eric Esrailian, MD, MPH

Co-chief, UCLA Division of Digestive Diseases
Assistant Clinical Professor

Kevin Ghassemi, MD

Associate Director of Clinical Programs
Center for Esophageal Disorders
Assistant Clinical Professor

Jeffrey R. Lewis, MD

Clinical Instructor of Medicine

V. Raman Muthusamy MD, FACC, FASGE

Director of Interventional Endoscopy
Associate Director of Endoscopy
Associate Clinical Professor of Medicine

Alireza Sedarat, MD

Clinical Instructor of Medicine

Rabindra R. Watson, MD

Assistant Clinical Professor of Medicine

Division of Surgery, Colorectal Surgery Section

Anne Lin, MD, MSHS

Assistant Professor

Jonathan Sack, MD

Associate Clinical Professor

Contact Information

UCLA Colorectal Cancer
Treatment Program
(310) 825-0482 Appointments
colorectal@mednet.ucla.edu