

Hybrid procedure offers a less invasive alternative to colectomy



A new, minimally invasive procedure that is a hybrid of colonoscopy and laparoscopy is proving to be a safe and effective alternative to open colectomy (removal of part of the colon) for patients with benign colon polyps that are not removable endoscopically.

Patients who undergo this hybrid procedure experience less pain and often go home after only one or two days. Scarring and wound complications are minimal as the laparoscopic surgeon makes only small, keyhole incisions in the abdomen rather than the long incision characteristic of a traditional colectomy.

Insufflation gas provides important advantage

The colonoscopy-laparoscopy procedure is made possible through the combined skills of the gastroenterologist and laparoscopic surgeon, and the use of CO₂ rather than ambient air for insufflation — the introduction of gas into the colon to improve visibility. CO₂ is more quickly absorbed by the gastrointestinal tract and results in less bowel distension, giving the laparoscopic surgeon a better field of vision within the abdominal cavity.

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“Some patients who would have required a bowel resection can instead benefit from this less invasive procedure. We’re using this combined technique as a way for patients to avoid colectomy,” explains James Yoo, M.D., a colorectal surgeon at UCLA. “This procedure involves tiny incisions for the laparoscopic instruments and patients stay in the hospital only a day or two.”

Who can benefit from the procedure?

When a routine colonoscopy reveals polyps, they are usually removed at the time of the procedure as a precaution against their progression to cancer. Some polyps are not suitable for endoscopic removal because of their size or inaccessible location. Typically, these patients would be offered partial colectomy, a more invasive procedure. For many of these patients, the hybrid colonoscopy/endoscopy procedure allows for the complete removal of benign polyps, sparing the patients the trauma, risks and prolonged recovery of a bowel resection. While the hybrid procedure removes such polyps far less invasively than open colectomy, these patients often require regular follow-up colonoscopies to ensure that there has been no recurrent growth at the removal site, a precaution that is typically not necessary when polyps are removed with colectomy.

Colorectal cancer is the second leading cause of cancer deaths in the United States, and virtually all colorectal cancers start as premalignant polyps. While the incidence among the U.S. population is holding steady, the average age of patients is creeping upward. Many patients today are 80 years or older — a population at higher risk for morbidities and mortalities when treated with standard colectomy.

About the hybrid procedure

The combination of laparoscopic and interventional endoscopic techniques allows physicians to simultaneously view and manipulate the inside and outside surfaces of the bowel wall, making it easier to locate and treat many polyps. The combined technique is made possible by the use of carbon dioxide (CO₂) as the insufflating gas to distend the bowels without obstructing the laparoscopic surgeon's view. In a standard colonoscopy, the use of ambient air for colon insufflation results in considerable bowel distension, obliterating the field of view from within the abdominal cavity.

Colonoscopy-laparoscopy, on the other hand, uses CO₂ as the insufflating gas. CO₂ is quickly absorbed by the gastrointestinal tract, resulting in minimal bowel distension and enabling the laparoscopic surgeon a clear field of view.

At UCLA, colonoscopy-laparoscopy benefits from the combined skills of the gastroenterologist and the laparoscopic surgeon. While gastroenterologists removing large polyps via standard colonoscopy must consider the risk of injuring, perforating or burning the bowel wall, the hybrid procedure enables the laparoscopic surgeon to apply a few stitches to repair any injury.

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