

US trial comparing local excision with TEM plus postoperative chemoradiotherapy with standard radical surgery in 80 patients. Dr. George says the preliminary results for TEM are “very good,” showing low morbidity and local recurrence rates and no evidence of metastasis.

“In certain situations, TEM with or without chemoradiotherapy can be consid-

ered even when a cure is not possible,” says Dr. George. “Palliative excision may be performed when diffuse systemic metastases are present. TEM may also be indicated for patients who are not candidates for radical surgery because of comorbid disease and/or advanced age and for those who refuse radical surgery or colostomy.”

TEM FOR POLYPS AND OTHER GROWTHS

The most common indication for TEM – and its original purpose – is the excision of large (>3 cm) rectal polyps that cannot be resected with colonoscopy. Rectal adenomas of any size and at any level can be excised using TEM. Furthermore, even when colonoscopic excision is feasible, TEM is the preferred technique for removing larger adenomas.

SIDEBAR: *Single-port laparoscopic colectomy*

Single-port laparoscopic colectomy (SPLC) offers to combine all the benefits of standard laparoscopic surgery along with potentially reduced morbidities and scarring.

Traditionally, colectomies have required large incisions, with increased risk of hernia and potentially-complicating intra-abdominal adhesions. Utilizing laparoscopy reduces all these risks, using three to six ports with small incisions ranging from 5 to 10 millimeters. For a right hemicolectomy, these would be at the umbilicus, just above the pubic bone and in the lower left quadrant.

Now, with SPLC, the same procedures may be accomplished through one incision (as small as 2.2 cm) at the umbilicus. A port through the midline is avascular, which reduces the chance of bleeding. Midline ports result in less pain as they contain fewer muscular nerve endings than ports away from the midline. However, the single biggest advantage of SPLC is less manipulation of the bowel and potential for ileus.

“Laparoscopy requires less recovery than traditional surgery in general, but for colectomies in particular, studies show the biggest recovery problem is return of bowel function,” says Bruce Robb, MD, assistant professor of surgery. “And SPLC may improve that aspect substantially.”

Other benefits potentially include an even shorter length of hospitalization and decreased use of narcotics.

Dr. Robb and colleague Don Selzer, MD, assistant professor of surgery, have performed three SPLCs at IU. This is a comparatively high number due to the

difficulty in achieving proper training and the extra cost of instrumentation: a thin, flexible laparoscope and special laparoscopic instruments with wrist-like joints. The movement at the joint allows the surgeon to maintain the same traction and counter-traction which would require at least three of the more commonly-used straight instruments.

“The technology is already there but it’s very expensive,” says Dr. Robb. “As more people adopt the technique, though, there’ll be more impetus for companies to further develop the instruments – and then the cost will lower.”

Increased development will also lead to tools for more complicated procedures using this method. Single-port laparoscopy has already been successfully used for appendectomy, surgery for complications of a ventriculoperitoneal shunt, and in urology. A single port also reduces the potential of leakage with CO₂ insufflation.

The procedure does take longer, but will improve with experience. “Even as a laparoscopic surgeon you have to re-think how to do certain maneuvers and adjust your technique,” says Dr. Robb. “We achieve some practice via animal training, and work some of it out in non-anatomic settings with inanimate objects.”

The learning curve for traditional laparoscopy is 25 to 50 procedures. Being experienced in traditional methods is helpful, but crossover training helps even more. “Dr. Selzer and I have done the three SPLCs together, and before that he’d done a dozen other single-port procedures for

other issues like cholecystectomy or anti-reflux surgery,” says Dr. Robb. “It also helps to have a patient who meets certain criteria.”

Patients who are good candidates for laparoscopy are also good candidates for single-port surgery. The ideal candidate is slender, with a small tumor and no previous abdominal surgery. “Morbidities increase proportionate to the amount of fatty and scar tissue,” he says. “If there’s a thicker layer for extraction, it becomes like pulling something up through a long tube.”

SPLC may be appropriate when dissection is needed in cases of Crohn’s or other bowel disease, or for removing certain cancerous polyps and benign polyps too large to remove endoscopically. For oncologic patients, surgeons must also concern themselves with whether or not they can retrieve adequate lymph tissue.

If necessary, a surgeon can easily switch from a single to multiple incisions. Reasons may include inadequate exposure, inability to create tension needed to see, a difficult dissection, or if bleeding is created that is not life threatening, but controllable with the introduction of additional port. “The technique of the surgery can not become more important than the outcome and best interest of the patient,” says Dr. Robb. “The whole point is to benefit the patient and in no way be a detriment.”

The beauty of a single-port method is it utilizes a single, already-necessary incision and does not add significant morbidities. “In the right cases, colectomy through the single port is almost like a magic trick,” says Dr. Robb. “Almost.” ■