Surgeons Expand The Use Of Scar-Free Technique

A team of surgeons from Mt. Sinai Hospital in New York who have pioneered scar-free gallbladder removal are offering the procedure to all suitable patients, and extending this new type of surgical procedure to other operations in the abdomen. They reported on their updated findings at the 2010 Annual Clinical Congress of the American College of Surgeons.

The procedure is known as laparoendoscopic single-site surgery, or LESS. It marries laparoscopy, known commonly as minimally invasive surgery that requires small incisions in the abdomen to insert instruments, with endoscopy, a probe with a camera that lets the surgeon see inside the abdomen. Laparoscopy is an alternative to an open operation, which involves a large incision to actually open the surgical site.

The LESS procedure goes one better than minimally invasive surgery, according to study co-author Edward Chin, MD, FACS, a general surgeon at Mt. Sinai Medical Center in New York. “Minimally invasive gallbladder surgery requires the surgeon to make four small incisions in a half-moon pattern in the abdomen, but the LESS procedure requires one incision made through the navel.

Moreover, laparoscopy leaves behind four visible, small scars in the abdomen following a procedure. LESS leaves virtually none,” he said. The LESS approach to gallbladder surgery is not for everyone, Dr. Chin cautioned. Patients who need emergency surgery or who have had previous abdominal operations that built up scar tissue are probably not suitable candidates. “Those two populations aside, we try to offer this technique to everyone who is coming in for elective laparoscopic gallbladder surgery,” he explained.

So far, results with LESS have been almost identical to those with laparoscopic surgery, Dr. Chin reported. Both operations typically allow for same-day discharge and require similar recovery times before patients return to their normal activities, and the costs for both are similar. “The surgeon can use a lot of expensive, new disposable instruments, but we are more inclined to use the minimum of specialized equipment,” Dr. Chin explained. “Depending on what available equipment the surgeon chooses to use, you can keep the costs relatively low, and not significantly higher than a traditional laparoscopic operation.”

The Mt. Sinai group found two advantages to the LESS procedure; these patients required less pain medicine after the operation than their counterparts who had the traditional minimally invasive operation; and LESS patients typically reported higher satisfaction scores

“What’s really exciting is how these patients would recommend the procedure to a

friend or family member," Dr. Chin said. "Seventy-four percent of the patients who had the single-incision operation would strongly recommend the procedure to someone else versus 36 percent of those who had laparoscopic surgery."

Since the Mt. Sinai team first used LESS for gallbladder removal, the surgeons have completed operations using the LESS approach to remove adrenal glands and spleens, Dr. Chin said. "These are more advanced and challenging procedures, but we were able to demonstrate in small numbers so far that these procedures can be safely done using a similar technique," he said. However, he added, these procedures require more study. Earlier this year, the Mt. Sinai surgeons also completed a single-incision combined operation, removing the gall-bladder and spleen in a pediatric patient, Dr. Chin reported.

Future innovations related to the procedure may involve incorporating surgical robots, Dr. Chin said. "For gallbladder removal, very few surgeons would employ the surgical robot because it's just not necessary," he said. "Gallbladder surgery is a relatively straightforward procedure that can be done very well and very safely by traditional surgery." Additionally, today's robots are too large and expensive to use for common abdominal operations, he said. "When the surgical robot gets further miniaturized, I can see this really revolutionizing single-incision surgery," he added.

Co-authors of the study with Dr. Chin were Modesto J Colon, MD; Samuel Eisenstein, MD; Dana Telem, MD; and Celia M Divino, MD, FACS.

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