EVOLUTION OF TECHNIQUE IN PERFORMANCE OF MINIMALLY INVASIVE COLECTOMIES

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This article represents a retrospective study from a single institution in Hartford, Connecticut, assessing the development of minimally invasive techniques in performing colectomies at their institution, a university hospital associated with the University of Connecticut. An overview is provided on the forms of minimally invasive colorectal surgery namely laparoscopic colectomy and hand-assisted laparoscopic surgery (HALS). These surgical procedures were instituted in the early 1990's and a review was provided about the development of these techniques in the United States. The retrospective study was performed over a seven year period from 2005 to the end of 2011, assessing nearly 1800 patients who underwent colectomies for malignancy, diverticular disease, inflammatory bowel disease and benign polyps. The demographics related to the patients operated were recorded, together with the operative time, estimated blood loss, length of stay in hospital and surgical conversion rates. The highest conversion rates occurred in the patients with diverticular disease requiring surgery, given the inflammatory process associated with the disease. Overall there has been a progression in performing more pure “laparoscopic” resections rather than HALS procedures. The HALS was regarded as a transition towards laparoscopic resection, but HALS carried definite advantages in patients requiring a greater degree of dissection, such as those with diverticular disease with associated adhesions, fistulas or the presence of a phlegmon. The HALS procedure was also particularly useful in cases of malignancy where there was a particularly large tumour, with difficulty in achieving a wide margin of resection in that setting.

The authors conclude that at their particular institution there has been a trend towards pure laparoscopic resections, in a greater percentage of their patients, with the HALS of particular value in patients with diverticular disease.

Dr Currer’s comment:
Despite the availability of minimal access colorectal surgery for 25 years, there is inconclusive evidence to show its benefit with regard to outcomes, related to colorectal cancer surgery. The main benefit of minimal access surgery relates to a lesser hospital stay, and reduced post-operative pain for the patient. Complication rates remain much the same as with the open operation and in particular the risk of anastomotic leakage. Scientific studies have proven that the HALS and laparoscopic colectomies are able to
achieve adequate margins of resection, equal to that seen with “open” surgery. The operative time for the laparoscopic procedure is at least 1½ times of open surgery. Dr Currer’s preference is the HALS assisted technique, the incision to remove the resected specimen placed below the umbilicus. The hand-assisted technique facilitates the dissection of the hepatic and splenic flexures of the colon, thereby obviating the need for a full midline incision. Robotic colorectal surgery has been shown to have benefit only in deep pelvic dissections, as required with low anterior resections of the rectum. Robotic surgery currently, has no place in standard left and right colon resections.