

# Total Laparoscopic Aortic Surgery Is Feasible, Shows Satisfactory Results

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Recently the use of laparoscopy for vascular procedures has been limited by difficulties in aortic exposure and anastomosis techniques, as well as the concurrent competitive progress of endovascular surgery. For aortic repair, best results (in terms of long-term patency) have been obtained by conventional surgery which has been associated short-term morbidity and mortality.

Endovascular techniques (which are noninvasive but have less reliable long-term results) as well as video-endoscopic aortic surgery are alternatives to conventional surgery. Minimally invasive surgery benefits include reduced time in intensive care and a shorter hospital stay; a quicker resumption of intestinal transit; less abdominal wall complications; and reduced requirements for analgesics.

“The goal of total laparoscopic aortic repair is to achieve the same outcome as open repair without invasive laparotomy,” said Jérôme Cau, MD, professor at Poitiers University Hospital in Poitiers, France.

“However, specialized training is required to master the procedure and get acquainted with coelioscopic practice necessary for laparoscopic suture.”

Dr. Cau said he and fellow researchers performed a study that completed a retrospective analysis of laparoscopic techniques for vascular procedures in a series of 219 patients, to determine its feasibility for treatment and outcomes with respect to aortic occlusive disease (AOD), abdominal aortic aneurysms (AAA) and aorto-renal bypass in the

endovascular era. These findings were presented today at the 63rd Annual Meeting of the Society for Vascular Surgery®.

One hundred and twenty-seven AODs; 80 AAAs and 12 aorto-renal bypasses were studied from the hospital; this series did not include 110 aortic bypass patients operated on in others centers by this team. The mean patient age was 61 years and the gender ratio was three men to one woman. The mean operative time of procedures for AOD was 223 ( $\pm 50$ ) minutes, with a mean clamp time of 56 ( $\pm 21$ ) minutes. A total of 3.6 percent of AOD procedures had to be converted to open surgeries. For laparoscopic AAA procedures, the mean operative time was 262 ( $\pm 57$ ) minutes and the mean “clamp time was 103 ( $\pm 15$ ) minutes. Eight AAAs had to be converted to an open procedure. The 30-day mortality rate was 0.9 percent. Overall mortality rate was 13.4 percent during a mean follow-up time of 16.2 months. The primary assisted patency rate for AAAs and occlusive disease was 100 percent.

Dr. Cau added that as any in any relatively new technique, laparoscopy’s place in vascular surgery remains to be defined. He noted that for aortoiliac occlusive diseases, this technique has shown excellent results and should compete with open repair for the treatment of TASC C & D occlusive diseases.

“Aneurysm repair in laparoscopy has been demonstrated to be feasible and reliable, and in our experience showed promising and satisfactory results,” noted Dr. Cau. “In the aneurysmal pathology we can predict that the competition with endovascular aortic repair (which is becoming the standard) will make laparoscopy more difficult to ‘find its place’ and make room for hybrid techniques. Specific training remains particularly important to reach technical success in laparoscopy and needs to be presented to the young generation of vascular surgeons in university pilot center.”

“Precise indications for this kind of surgery, compared to endovascular and open [surgery](#), remain to be determined by randomized studies,” added Dr. Cau. “Nevertheless, it is a difficult technique. Further development will rely on effective training, advances in technique and instrumentation.”

Source: Society for Vascular Surgery

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