**DA VINCI ROBOT AND VASCULAR SURGERY**

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Objectives: The feasibility of robotically-assisted laparoscopic aortic surgery has been adequately demonstrated. Our clinical experience with robot-assisted aortoiliac reconstruction for occlusive diseases, aneurysms, and hybrid procedures performed using the da Vinci system is herein described.

Methods: Between November 2005 and December 2011, we performed 233 robot-assisted laparoscopic aortoiliac procedures. 179 patients were prospectively evaluated for occlusive diseases, 45 patients for abdominal aortic aneurysm, two for a common iliac artery aneurysm, two for a splenic artery aneurysm, three for hybrid procedures, and three for endoleak II treatment post EVAR.The robotic system was applied to construct the vascular anastomosis, for the thromboendarterectomy, for the aorto-iliac reconstruction with a closure patch, for dissection of the splenic artery, and for the posterior peritoneal suture. A combination of conventional laparoscopic surgeries and robotic surgeries were routinely included. A modified, fully-robotic approach without laparoscopic surgery was used in the last 63 cases in our series.

Results: 224 cases (96%) were successfully completed robotically, one patient's surgery was discontinued during laparoscopy due to heavy aortic calcification. In eight patients (3.4%) conversion was necessary. The thirty-day mortality rate was 0.4%, and non-lethal postoperative complications were observed in ten patients (4.3%).

Conclusions: Our experience with robot-assisted laparoscopic surgery has demonstrated the feasibility of this technique for aortoiliac vascular and hybrid procedures. The da Vinci robotic system facilitated the creation of the aortic anastomosis, and shortened the aortic clamping time as compared to purely laparoscopic techniques.