

Laparo-Endoscopic Single-Site (LESS) Donor Nephrectomy Using GelPOINT®: An Initial Clinical Experience

Introduction and Objective: Recent reports have suggested that Laparo-Endoscopic Single-Site (LESS) surgeries is feasible and improves the cosmesis of renal transplantation donors; however, this procedure requires utilization of specialized instruments. We present our experience with LESS donor nephrectomy performed at Akita University.

Materials and Methods: From December 2011 to March 2012, a total of 5 living renal transplant donors underwent LESS nephrectomy. The median age, height, weight, and preoperative creatinine clearance of donors were 57 (43–74) years, 156.6 (155.3–158.5) cm, 57.5 (46.6–64.2) kg, and 109.9 (75.4–122.1) mg/min, respectively. A GelPOINT® Advanced Access Platform was applied at a 5–5.5-cm pararectal incision at the level of the umbilicus, and the graft kidney was extracted using an Endo Catch II™ bag.

Results: The procedure was technically successful in all 5 patients. Median operative time, blood loss, and warm ischemic time were 198 (183–258) min, 34 (0–140) mL, and 223 (199–436) sec, respectively. Median 7-day and 1-month postoperative serum creatinine concentrations were 1.00 (0.79–1.55) mg/dL and 0.90 (0.73–0.99) mg/dL, respectively. There were no complications or delayed graft function in this series. Most procedures were able to be performed with conventional laparoscopic techniques and instruments. No significant difference was observed between the operative data of LESS donor nephrectomy and conventional laparoscopic donor nephrectomy (n = 111) performed at our institute reviewed as historical controls.

Conclusions: Although the number of cases is small, LESS donor nephrectomy using a GelPOINT® was safely and efficiently performed by experienced laparoscopic surgeons at our institute.