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Laparoendoscopic single-site nephrectomy in children: is it a good alternative to conventional laparoscopic approach?

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Summary *Background*: Minimally invasive surgery is considered to be the gold standard treatment for nephrectomy in children. In recent decades it has been proposed that laparoendoscopic single-site (LESS) surgery is a feasible alternative to perform laparoscopic nephrectomies.
Objective: The aim of our study was to compare the safety and efficacy of LESS against conventional laparoscopic (CL) nephrectomy.
Study design: From March 2010 to November 2012 charts of pediatric patients who underwent laparoscopic nephrectomy at our tertiary center were revised. The data from 23 nephrectomies performed by either LESS or conventional laparoscopic approach were analyzed retrospectively. A transperitoneal approach was selected for both modalities. Indications for surgery included multicystic dysplastic kidneys (MCDK), hydronephrosis, vesicoureteral reflux (VUR), and renal dysplasia. Malignancy and previous abdominal interventions were exclusion criteria. Differences with a *p* value less than 0.05 were considered to be statistically significant.
Results: Twenty-three laparoscopic nephrectomies were performed, 13 by CL (53.5%) and 10 by LESS (46.5%). The mean age of patients was 3.29 ± 3.5 years. There were no significant differences in age, gender, laterality of pathology, size of the kidneys, and surgical indications between the groups (p = 0.067, 0.431, 0.94, 0.644, and 0.078, respectively). The mean operative times were 120 minutes for LESS and 132.7 minutes for CL (p = 0.334). No procedures required conversion to open surgery or to standard laparoscopy. There was one intraoperative complication in each group (p = 0.845). The mean length of stay (LOS), narcotic usages, and postoperative complications were similar in both groups.