

Outcome of Laparoscopic Upper Heminephrectomy in Children: Two Centers Experience

Introduction and Objective: We report our two centre experience and outcome with laparoscopic transperitoneal and retroperitoneal upper pole heminephroureterectomy (HNU) in children with renal duplex systems and impaired upper pole function.

Materials and Methods: Laparoscopic HNU was performed in 22 children (15 girls, 7 boys) with a mean age of 5.9 years. Seventeen underwent retroperitoneal and five transperitoneal HNU between 2005 and 2010. Urinary tract infection was the first presenting symptom in all children except one child with urine retention by a large ureterocele. Voiding-cystourethrography (VCUG) and renal scintigraphy showed dual collecting systems in 11 cases on the right side and 11 on the left. The upper pole collecting system was non-functioning in all cases. Post-operative US was done at 1 and 3 months with renal scintigraphy at 3 months to check the remaining function of the lower moiety.

Results: Overall, the mean operative time was 152 minutes (144 for retroperitoneal and 160 for transperitoneal). Blood loss was 10-50cc and there were no intra-operative complications. Mean hospitalization and postoperative follow-up were 3.5 ± 1.25 days and 22 ± 9.83 months respectively. Postoperative recovery was uneventful. At 3rd month evaluation after the surgery, renal scintigraphy study revealed no parenchymal loss of the remaining renal moiety in all children.

Conclusions: Laparoscopic upper pole HNU in children can be performed via transperitoneal or retroperitoneal approach. Retroperitoneal laparoscopic upper pole HNU has shorter operative time. No increased risk of complications in any of the approaches. Low morbidity, minimal blood loss, shorter hospital stay and better cosmesis are benefits of the laparoscopic approach.