IS-001 Laparoscopic transabdominal pyeloplasty: prospective study on short- and long-term results from a single institution

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Background
Laparoscopic transabdominal dismembered pyeloplasty is not well established for all agegroups. We have recently reported a multicenter study (J Urol 2006; 175: 688-91). The present report includes a prospective single center study using fast-track concepts.

Patients and methods
43 consecutive infants and children underwent laparoscopic transabdominal dismembered pyeloplasty using a 3-4 trocar technique. All patients had confirmed unilateral deterioration of renal function on isotope renography. Fast-track concepts were used prospectively (J Pediatr Surg 2007; 42: 234-8). The patients were divided into 3 groups: group 1 (age 1-12 months, n=10); group 2 (age 1-6 years, n=22); group 3 (age 7-18 years, n=11). Pre-, intra-, and postoperative data were collected prospectively. Follow-up included isotope renography after 3 months.

Results
Laparoscopic pyeloplasty was feasible in 41 patients (95 %). The mean operation time was 159 min (range 80-280, 142 min in the first 10, and 132 min in the last 10 patients). Two operations were converted due to stenting problems. The mean operation time was not significantly different between the 3 agegroups (p > 0.05), and the mean hospital stay was less < 2 days in all groups. 39 patients (95 %) were asymptomatic and had improved PUJ drainage on isotope renography. Two patients underwent re-do pyeloplasty due to recurrent hydronephrosis.

Conclusions
Laparoscopic pyeloplasty requires a limited learning curve. It is effective and safe in children of all age-groups and can be performed fast-track, also in infants under one year of age.