Congenital Ureteropelvic Junction Obstruction in Pediatric Patients: Open Surgery Results

Introduction and Objective: This retrospective study was done to assess the early and late results after open surgery pyeloplasty in children patients.
Materials and Methods: A total of 74 children suffering of congenital uretero-pelvic junction obstruction were admitted in our department and entered in this study from January 2000 to January 2012. The youngest was 1.1 years old, the oldest was 15.7, with an average of 10.3. Sixty four children had unilateral junction obstruction and 10 children had bilateral obstruction. Eighty four renal units entered in the study and international classification of hydronephrosis was considered. Nine units had grade II hydronephrosis, 30 units had grade III, 33 units had grade IV and 12 units had grade V hydronephrosis. Clinical and ultrasound examination, conventional and diuretic-stimulated urography and in selected cases radionuclide renography, CT and MRI urography were performed in order to reach the diagnostic.
Results: Dismembered Hynes-Anderson pyeloplasty represented the “golden standard” surgical procedure. It was performed in 76 cases, and in one case uretero – calico – anastomosis was done. In five cases of horseshoe kidney anterior trans-peritoneal approach was considered. Vascular de-crossings (18 cases), surgical lithotomy (14 cases), ESWL (4 cases) completed the pyeloplasty. Different procedures of drainage followed the junction reconstruction. Primary nephrectomy was performed in 8 cases and secondary late nephrectomy in 3 cases. According to the moment of operation the follow-up period was 1-5 years in 24 cases and 5-10 years in 31 cases. The follow-up protocol included clinical examination, ultrasound, urography, BUN, serum creatinine level, urine culture and quality of life. Seven renal units with grade II hydronephrosis normalized after surgery. In grade III cases the results were as follows: 18 cases – normalization, 2 cases – the grade of hydronephrosis decreased and in one case the grade increased. For grade IV dilatation the results were as follows: 8 cases - normalization after surgery, 9 cases - stationary or the hydronephrosis grade decreased, and in three cases the hydronephrosis increased despite the reconstructive surgery. In 8 cases of grade V hydronephosis surgery ameliorated the dilatation but in three cases we removed the renal unit.
Conclusions: Early diagnostic and treatment ameliorated pyeloplasty results. The preoperative grade of dilatation influenced the final surgery result. Open surgery could solve the associate pathology – lithiasis, malformations, etc. In utero ultrasonography should represent the screening test in order to reach the diagnostic in early stages of the disease.