Risk factors and outcomes of urinary tract infections after pediatric renal transplant

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Background: Recurrent urinary tract infections are a common and important problem after renal transplant. We evaluate risk factors and outcomes of urinary tract infections after pediatric renal transplant.

Methods: We retrospectively evaluated the data files from 165 pediatric renal transplant patients. Patients with and without urinary tract infections after renal transplant were divided into two groups. Demographics of the patients, graft functions, infections, acute rejection episodes, and graft loss were recorded.

Results: One hundred sixty-five children (92 males and 73 females) with kidney transplant were enrolled to the study, 61 of them had urinary tract infection after renal transplant. Mean age at the time of the transplantation was 12.92 ± 4.73 years. Mean follow-up time after transplantation was 6.36 ± 4.45 years. Mean episode of urinary tract infection was 3.60 ± 3.05 episode/patient. Although urinary tract infections rate was significantly higher in patients with lower urinary tract dysfunction, 35% of patient without lower urinary tract dysfunction had urinary tract infection after renal transplant. Urinary tract infection risk was 2.58 times higher for girls when compared with boys. There was any significant difference between two groups for immunosuppressive treatment. Glomerular filtration rate (GFR) values at 3 years (76.10 ± 31.30 mL/min vs. 76.74 ± 30.20 mL/min; $P=0.90$) and 5 years of follow-up (68.43 ± 33.50 mL/min vs. 59.63 ± 32.15 mL/min; $P=0.20$) of two groups was similar. There was any significant difference between two groups for rejection episodes. Eight patients (4.84%) were lost their graft during 5 years of follow-up. Three of these patients was also in urinary tract infection group and one of them has lower urinary tract dysfunction.

Conclusions: Lower urinary tract dysfunction and female gender are major risk factors for recurrent urinary tract infections after renal transplant. Renal transplant has similar outcomes, with similar GFR levels and acute rejection episode rate in children with and without urinary tract infection. Close monitoring, adequate treatment and appropriate prophylaxis of urinary tract infection will improve outcomes of renal transplant.

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