

LOWER URINARY TRACT SYMPTOMS AFTER RENAL TRANSPLANTATION: ARE THERE CHANGES OVER TIME?

Aims of Study

In a recently published study, it was found that in the first year after transplantation renal transplant recipients needed to void significantly more often during the day and during the night than control patients (1). To find out how these symptoms develop over time, the micturition pattern of the same group of patients was investigated again two and a half year later.

Methods

The long-term effects of renal transplantation on micturition frequency are studied using a panel design. The study group consisted of 63 patients who underwent renal transplantation in 1998 at the University Medical Centre St Radboud Nijmegen and who returned a completed questionnaire about their micturition patterns in the first year after the transplantation (T1). Mean interval between transplantation and T1 was eight months with a range of two tot 13 months. In this follow up study, the patients were approached again and 53 of them returned again a completed questionnaire. The mean interval since transplantation at T2 was 38 months with a range of 33 to 44 months. The data on symptoms of lower urinary tract dysfunction were collected with the International Continence Society male (2) and Bristol Female Lower Urinary tract Symptoms questionnaire (3). The control group consisted of 74 patients with non-oncological complaints who visited the Outpatient Clinic of Otorhinolaryngology at T1. The data were processed with commercial software. In our analyses, we compare the micturition behaviour of the transplant group at T2 with the control group and with the micturition behaviour of the same patients at T1. To test for significance of the differences between T2 and the control group, the chi-square test was used.

Results

Our study shows that three to four years after transplantation, the renal transplant group still urinates significantly more often during the day and during the night than control patients. From the 24 patients suffering from frequency (a daytime micturition frequency of seven times or more), fifteen (63%) still suffered from frequency at T2. From the 28 patients with a normal daytime micturition frequency, 7 (25%) were found to suffer from frequency at T2. From the 34 patients suffering from nocturia (micturition frequency of two times or more at night) at T1, 23 (68%) still suffered from nocturia at T2. From the 19 patients with a normal nighttime micturition frequency, 3 (16%) were found to suffer from nocturia at T2.

Conclusions

This study shows that frequency and nocturia among renal transplant patients is a rather stable phenomenon. Three to four years after transplantation, the voiding frequency of these patients is still significantly increased during day and night time compared to a control group. Furthermore, among the majority (63-68%) of the patients who showed these symptoms shortly after transplantation, the symptoms are still present two to three years later.

References

1. Weide, van der M.J.A., Hilbrands, L.B., Bemelmans, B.L.H., Meuleman, E.J.H., Frederiks, C.M.A.: Lower Urinary Tract Symptoms after Renal Transplantation. *J Urol*, 166: 1237-1241, 2001
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Table 1. Characteristics of the renal transplant patients and the control group

Name variable	Renal transplant patients		Control group
	T1	T2	
Valid cases,N	63	53	74
Age			
Range	20 – 70	23 – 71	15 – 69
Mean	47	49	44
Gender			
Men	34	29	37
Female	29	24	37
Follow up in months			
Range	2 – 13	33 – 44	
Mean	8	38	

Table 2. Micturition frequency daytime and nighttime, renal transplant patients T1 and T2, versus control group

Name variable	Renal transplant patients		Control group T1
	T1	T2	
Micturitions per day			
1-4	13 (21.3%)	10 (18.9%)	34 (46.6%)
5-6	18 (29.5%)	21 (39.6%)	22 (30.1%)
7-8	24 (39.3%)	16 (30.2%)	10 (13.7%)
9 of meer	6 (9.8%)	6 (11.3%)	7 (9.6%)
	P=0.002 (T1 vs control) P=0.009 (T2 vs control)		
Micturitions per night			
0	6 (9.5%)	6 (11.3%)	35 (47.3%)
1	18 (28.6%)	21 (39.6%)	25 (33.8%)
2	26 (41.3%)	16 (30.2%)	10 (13.5%)
3 or more	13 (20.6%)	10 (18.9%)	4 (5.4%)
	P<0.001 (T1 vs control) P < 0.001 (T2 vs control)		

Table 3. Micturition frequency per day, T1 versus T2

T1	T2		Total
	1 - 6	≥ 7	
1 – 6	21 (75%)	7 (25%)	28 (100%)
≥ 7	9 (37.5%)	15 (62.5%)	24 (100%)
Total	30 (57.7%)	22 (42.3%)	52 (100%)

Table 4. Micturition frequency per night, T1 versus T2

T1	T2		Total
	0 - 1	≥ 2	
0 – 1	16 (84.2%)	3 (15.8%)	19 (100%)
≥ 2	11 (32.4%)	23 (67.6%)	34 (100%)
Total	27 (50.9%)	26 (49.1%)	53 (100%)