Abstract Title: Transplant ureterostomy in children with congenital anomalies of the kidneys and urinary tract (CAKUT)

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Background: Working out if the bladders of children with CAKUT and renal failure are safe for transplantation can be difficult and may delay engraftment. We have managed a number of patients with a transplant ureterostomy so as not to delay engraftment.

Aims: To compare the outcome of renal transplant recipients with a ureterostomy fashioned at the time of transplant with those with bladder augmentation +/- a Mitrafonoff stoma fashioned before transplant and those with a normal bladder.

Methods: Retrospective chart review of all renal transplant recipients with a ureterostomy, bladder augmentation +/- Mitrafonoff stoma and those with a normal bladder. Creatinine levels was gathered for day one, day 7, day 14, day 28 and 3 monthly post-transplant for a year and yearly. Data is presented as median (IQR).

Results: Twenty-two patients were included in the study. Seven patients, 1 female and 6 males had ureterostomies. Median age of the group was 4.8 (3-8 years) at time of transplant. Four grafts were living related and 3 deceased donor. Eight patients (6 male, 2 female) with a median age of 7.5 (4-10.8) years at transplant with bladder augmentation where identified, of which there was 6 cadaveric and 2 living related donors. In the control group there were 6 males, 1 female, who received 6 deceased and 1 living related donor graft.
All groups were followed up for 30 (26.5-53.7) months with no difference between groups (p=0.76). After controlling for age at transplant and donor type there were no significant differences in creatinine levels, number of infections per year or UTIs post-transplant (Table 1).

Conclusion: Transplant ureterostomy is a viable means of draining the kidney. Using this permits early engraftment and the bladder can then be assessed when the patient is older as to whether it is safe to implant the ureter with or without reconstructive bladder surgery.

Table 1. Markers of renal function in recipients with a ureterostomy fashioned at the time of transplant with those with bladder augmentation +/- a Mitrafonoff stoma fashioned before transplant and those with a normal bladder.

	Urological Procedure			
	Ureterostomy	Bladder augmentation/ Mitrafanoff	None	*P value*
Number, n (%)	7 (31.8)	8 (36.4)	7 (31.8)	NS
<u>Day 7 Post-Op</u>				
*Creatinine**	42.0 (26.0- 52.0)	35.5 (26.0 – 56.0)	50.0 (26.0 – 175.0)	0.431
*GFR**	98.9 (87.3-126.7)	114.8 (82.4-135.4)	86.2 (20-136.2)	0.625
<u>Day 14 Post-Op</u>				
*Creatinine**	51.0 (26.0 – 53.0)	44.0 (35.5– 56.0)	44.0 (26.0 – 75.0)	0.431
GFR	84.2 (41.6)	97.3 (20.9)	94.5 (46.7)	0.625
<u>6 months Post-Op</u>				
Creatinine	45.3 (18.3)	63.4 (24.7)	43.9 (12.5)	0.763
GFR	93.4 (22.0)	74.2 (22.8)	97.3 (26.5)	0.997
<u>12 months Post-Op</u>				
Creatinine	47.1 (16.5)	72.3 (46.4)	49.7 (16.7)	0.139
GFR *	83.1 (74.4 - 100.9)	75.5 (58.9 - 94.9)	85.1 (68.6- 113.0)	0.502