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Clinical Profile of Post-Kidney Transplantation Hypertension in Children

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Objectives : Hypertension is one of the commonest complication among kidney transplantation (KTX) recipients. The prevalence of post-KTX hypertension in children ranges between 60-90%. It is an important risk factor for graft loss, cardiovascular outcome and mortality. Adequate antihypertensive drugs could improve longterm graft and patient survival.

Methods : We conducted cohort retrospective study with total sampling of all KTX children in dr. Cipto Mangunkusumo National Hospital, Jakarta, Indonesia, from 2015 until 2022. Participants whose age 11-17 years old and previously undergone hemodialysis or peritoneal dialysis were followed for their blood pressure at day 1,7; 1,3,6,12 months post-KTX. Mann-Whitney test was performed to analyze the association between independent variables with hypertension during follow up. We also conducted Kruskal-Wallis test to analyze antihypertensive combination with outcome of hypertension in month-12.

Results : 19/31 children undergone KTX were enrolled. 16/19 had hypertension in post operative day 1 and decrease in 3 until 6 months. 9 of 19 patients received antihypertensive for more than 6 months, while 5 patient didn't received antihypertensive drugs. On bivariate analysis, related donor was protective factor towards hypertension after 1 and 6 month [1 month: RRs of 0,429; (CI95% 0,234-0,785); 6 months: RRs of 0,462; CI95% 0,257-0,830)]. Combination of calcium channel blocker (CCB) and beta blocker was associated with better hypertension improvement in month-12. Hypertension showed a decrease in trend during follow up from 84,2% to 27,8% after one year of KTX.

Conclusions : Hypertension was found in post-KTX children up to 12 months and related donor was protective factor to hypertension. Combination of CCB and beta blocker brought beneficial effect on improvement of post-KTX hypertension in children.

DEMOGRAPHIC FEATURES OF POST KIDNEY TRANSPLANTATION IN CHILDREN_page-0001.jpg

DEMOGRAPHIC FEATURES OF POST KIDNEY TRANSPLANTATION IN CHILDREN

Characteristics		N=19	%
Sex	Male	12	63,1
	Female	7	36,8
Age at kidney transplantation	< 15 years old	10	52,6
	≥ 15 years old	9	47,3
Etiology of CKD	CAKUT	10	52,6
	Glomerulonephritis	9	47,3
History of dialysis	Hemodialysis	14	73,6
	CAPD	5	26,3
Donor status	Related	14	73,6
	Non related	5	26,3
Blood pressure at 12 th month*	Normotension	13	72,2
	Hypertension	5	27,8
Antihypertensive therapy	CCB + beta blocker	8	42,1
	CCB + ACE / ARB	2	10,5
	CCB + diuretic	1	5,3
	CCB	2	10,5
	Beta blocker	1	5,3
	Without therapy	5	26,3
Duration of therapy*	< 6 months	4	22,2
	≥ 6 months	9	50

*1 patient died in 2 months follow up