

Supplemental materials

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Supplemental table 1: The list of nephrotoxic medications

Nephrotoxic medication	
Acyclovir	Gentamicin
Adefovir	Hydrochlorothiazide
Amikacin	Ibuprofen
Amiloride	Ifosfamide
Amphotericin B	Indomethacin
Aspirin	Ketorolac
Captopril	Lisinopril
Carboplatin	Losartan
Cidofovir	Melphalan
Cisplatin	Methotrexate
Co-trimoxazole	Metolazone
Cyclophosphamide	Naproxen
Cyclosporin A	Nivolumab
Cytarabine	Piperacillin+Tazobactam
Diclofenac sodium	Ramipril
Enalapril / enalaprilat	Sirolimus
Entresto	Spirolactone
Eplerenone	Tacrolimus
Etoposide	Telmisartan
Everolimus	Tenofovir
Foscarnet	Valganciclovir
Furosemide	Vancomycin
Ganciclovir	Zoledronic acid
Gemcitabine	

The drugs in the list were selected from the HKCH formulary with reference to drug information database from British National Formulary (BNF) and Uptodate and the following two references:

- Moffett BS, Goldstein SL. Acute kidney injury and increasing nephrotoxic-medication exposure in noncritically-ill children. *Clin J Am Soc Nephrol*. 2011;6(4):856–63.
- Naughton CA. Drug-induced nephrotoxicity. *Am Fam Physician*. 2008;78(6):743–50.

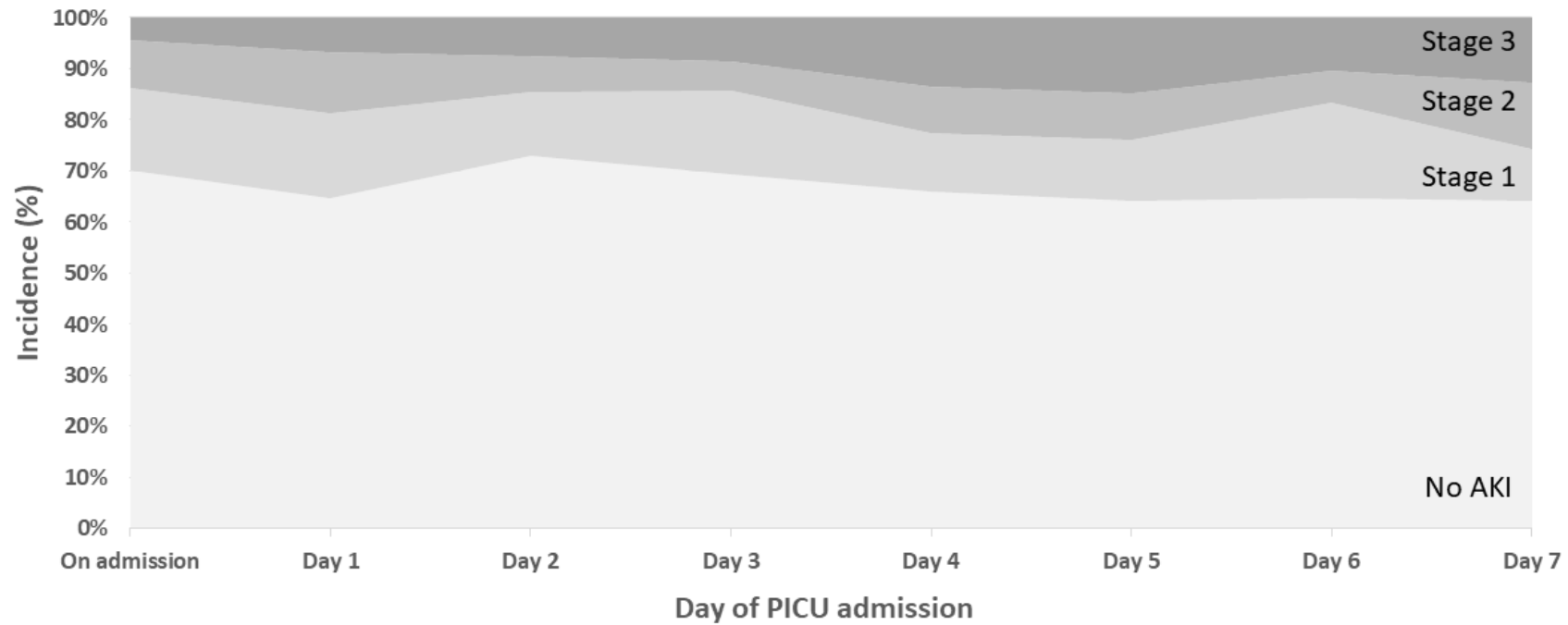
Supplemental table 2: Risk factors for kidney outcomes and mortality

Variable	eGFR<90ml/min/1.73m ² at 90 days		Mortality at 90 days		Latest eGFR<90ml/min/1.73m ²		
	HR (95% CI)	p-value	HR (95% CI)	p-value	HR (95% CI)	p-value	
Female sex	1.09 (0.40, 2.97)	0.861	1.24 (0.48, 3.20)	0.665	1.01 (0.48, 2.15)	0.981	
Age (year)	1.03 (0.94, 1.12)	0.600	0.94 (0.85, 1.04)	0.218	0.99 (0.93, 1.06)	0.767	
Post-cardiac surgery	1.26 (0.43, 3.73)	0.671	0.03 (0.00, 4.80)	0.181	4.49 (1.57, 12.88)	0.005	
History of malignancy	0.61 (0.13, 2.80)	0.526	8.48 (2.44, 29.52)	0.001	0.79 (0.38, 1.67)	0.544	
Any AKI	5.71 (1.97, 16.55)	0.001	2.63 (0.97, 7.10)	0.057	1.99 (0.92, 4.29)	0.080	
AKI duration (day)	1.32 (1.05, 1.64)	0.016	1.29 (1.10, 1.51)	0.002	1.10 (0.96, 1.25)	0.178	
AKI≥2 days	5.75 (1.57, 21.06)	0.008	5.48 (2.09, 14.40)	0.001	1.20 (0.54, 2.68)	0.649	
SCr returning to baseline during PICU stay	0.25 (0.07, 0.89)	0.032	0.41 (0.13, 1.27)	0.121	0.77 (0.36, 1.63)	0.496	
Worst AKI staging	Nil*	---	---	---	---	---	
	Stage 1	3.57 (1.02, 12.45)	0.046	---	---	2.29 (0.97, 5.40)	0.059
	Stage 2	10.09 (2.47, 41.20)	0.001	2.07 (0.52, 8.26)	0.305	2.36 (0.85, 6.54)	0.099
	Stage 3	17.49 (3.54, 86.50)	<0.001	10.26 (3.56, 29.61)	<0.001	0.88 (0.19, 4.11)	0.872
Any AKD	5.38 (1.43, 20.15)	0.013	2.47 (0.66, 9.33)	0.181	3.80 (1.30, 11.10)	0.015	
AKD duration (day)	0.99 (0.95, 1.04)	0.71	0.97 (0.93, 1.01)	0.161	0.99 (0.97, 1.01)	0.302	
Worst AKD staging	Nil*	---	---	---	---	---	
	Stage 1	6.47 (1.62, 25.81)	0.008	1.37 (0.23, 8.20)	0.730	4.41 (1.38, 14.11)	0.012
	Stage 2	3.11 (0.50, 19.24)	0.223	0.87 (0.09, 8.32)	0.900	3.37 (1.01, 11.25)	0.048
	Stage 3	8.63 (0.77, 96.28)	0.080	8.11 (1.94, 33.96)	0.004	3.35 (0.74, 15.08)	0.116
AKI / AKD combination	No AKI or AKD*	---	---	---	---	---	
	Either AKI or AKD	7.70 (0.86, 69.33)	0.069	0.37 (0.04, 3.58)	0.393	2.09 (0.52, 8.40)	0.301
	Both AKI and AKD	14.87 (1.78, 124.02)	0.013	2.23 (0.58, 8.62)	0.245	3.79 (1.10, 13.06)	0.035
eGFR<90ml/min/1.73m ² at 90 days	---	---	---	---	3.66 (1.32, 10.12)	0.013	

Expressed in hazard ratios (95% confidence interval)

* Reference group

AKD: Acute kidney disease; AKI: Acute kidney injury; eGFR: estimated glomerular filtration rate; HR: Hazard ratios; SCr: serum creatinine

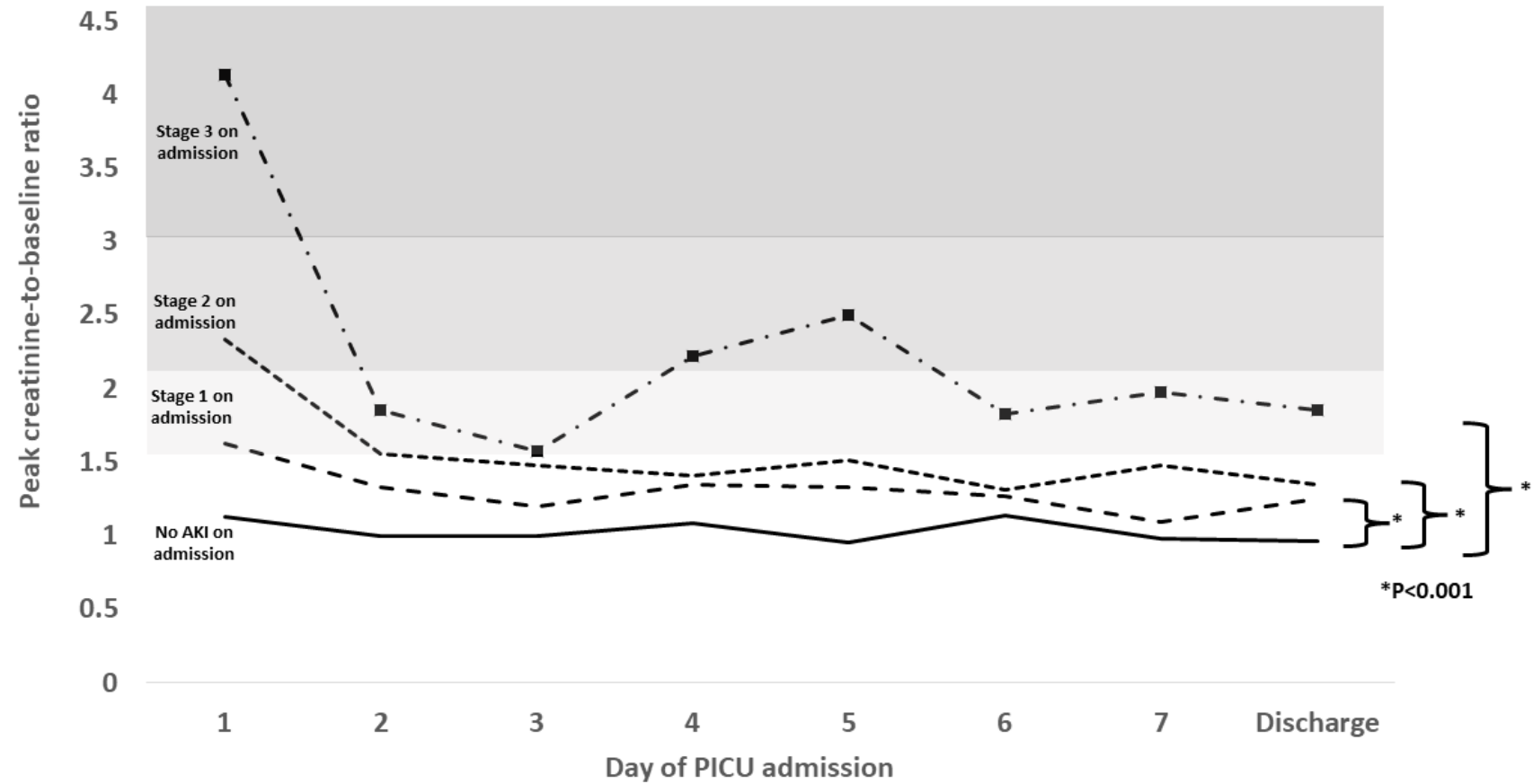
Supplemental figure 1: The incidence of acute kidney injury (AKI) during PICU admission

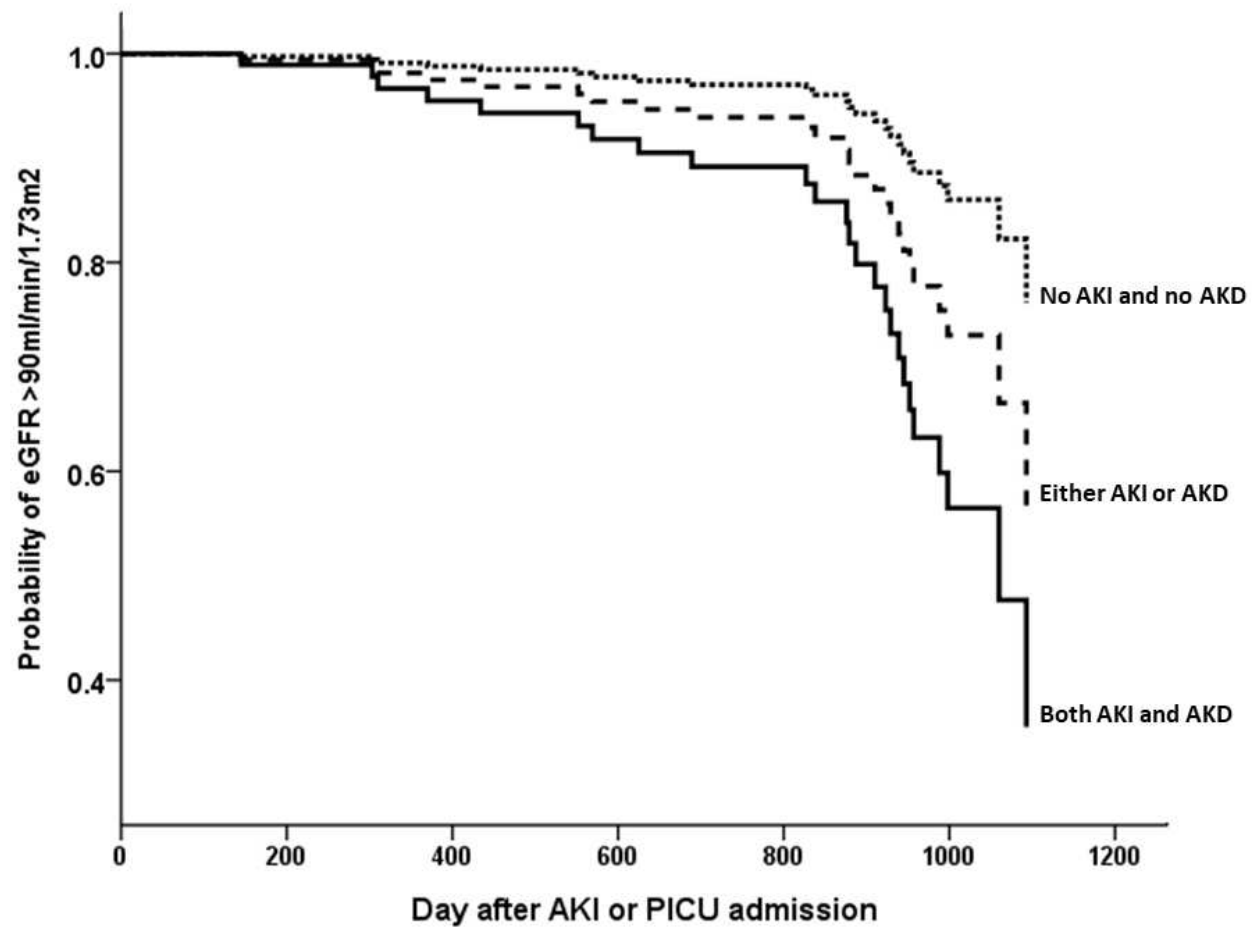
AKI Staging	Incidence (%)							
	On admission	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
No AKI	70.2	64.7	73	69.3	65.9	64.2	64.6	64.1
Stage 1	15.9	16.7	12.4	16.5	11.4	11.9	18.8	10.3
Stage 2	9.4	11.9	7	5.5	9.1	9	6.3	12.8
Stage 3	4.5	6.7	7.6	8.7	13.6	14.9	10.4	12.8
Subject number (n)	245	252	185	127	88	67	48	39

The incidence on the particular day was determined by the number of children with AKI divided by the number of children in PICU.

AKI: acute kidney injury; PICU: paediatric intensive care unit

Supplemental figure 2: The trend of peak serum creatinine-to-baseline creatinine level ratio during PICU stay



Supplemental figure 3: Probability of eGFR>90ml/min/1.73m² after PICU discharge

AKD: acute kidney disease; AKI: acute kidney injury; eGFR: estimated glomerular filtration rate; PICU: paediatric intensive care unit