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# PHENOTYPES AND BASELINE RISK FACTORS OF ACUTE KIDNEY INJURY IN CHILDREN AFTER ALLOGENEIC HEMATOPOIETIC STEM CELL TRANSPLANTATION

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# Background

Data about acute kidney injury (AKI) in pediatric allogeneic hematopoietic stem cell transplantation (allo-HSCT) recipients is scarce and often equivocal. Identifying baseline factors associated with AKI may allow to discriminate patients with increased AKI risk.

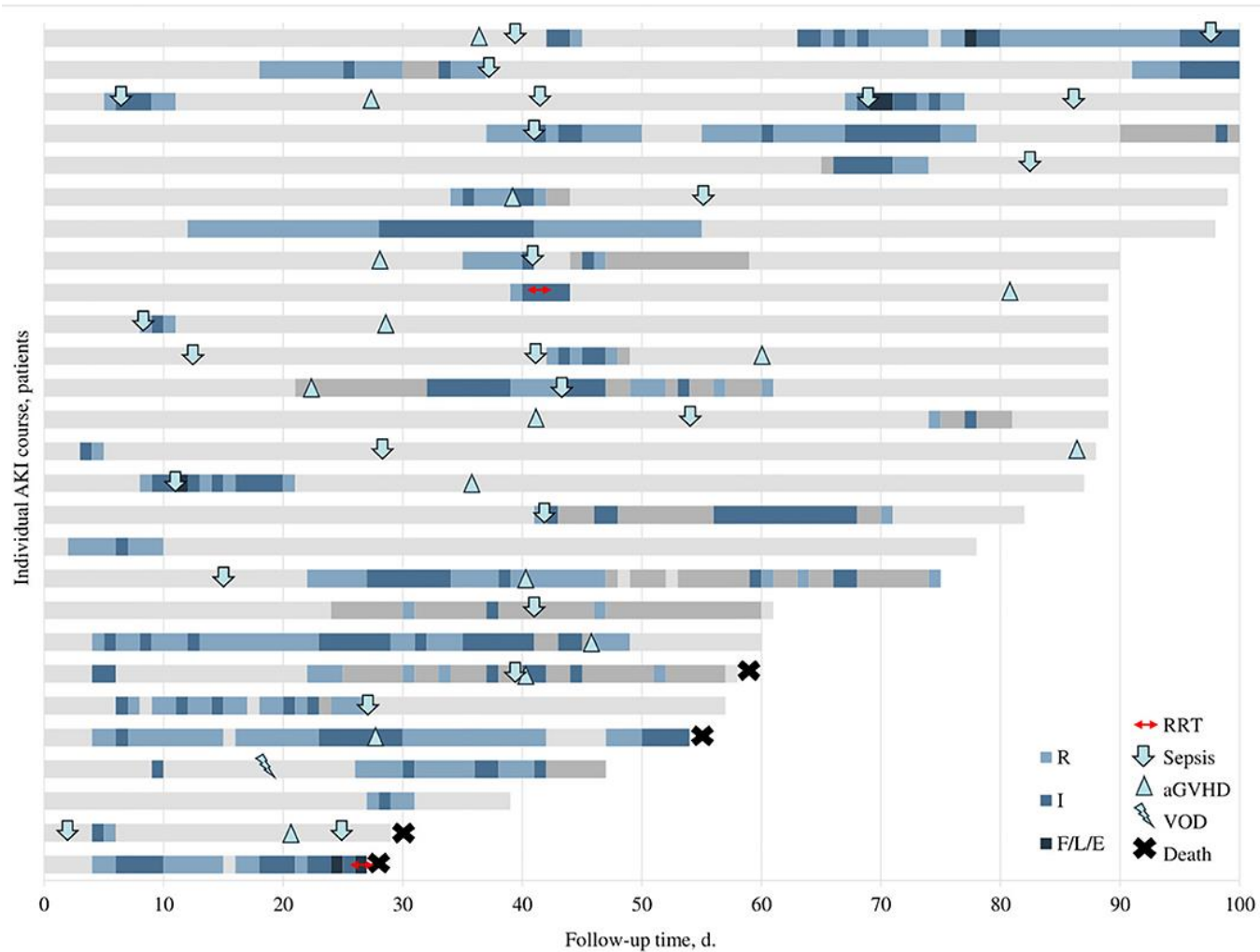
## Aim

To describe the prevalence and course of AKI during the first 100 days after allo-HSCT in children and to investigate its associations with baseline characteristics.

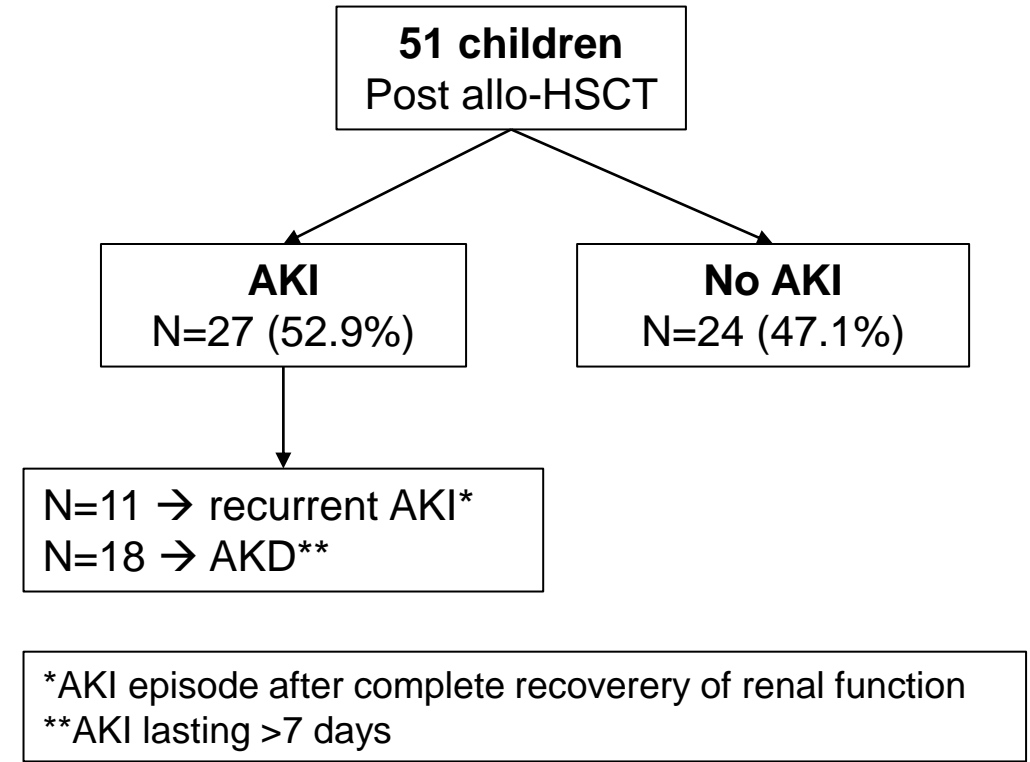
## Methods

- Retrospective chart review.
- Pediatric patients who underwent allo-HSCT at Vilnius University Hospital Santaros Clinics during 2011-2017.
- AKI was defined using the pRIFLE criteria (only AKI stage I or higher).
- Estimated glomerular filtration rate (eGFR) was estimated using Schwarz equation.

# Results (I)



**Figure 1.** Individual courses of patients with AKI. Different colors represent different stages of AKI (see legend in the figure).



# Results (II)

	AKI vs. all other C-stat 0.67 (95% CI, 0.56–0.77)			Recurrent AKI vs. all other C-stat 0.77 (95% CI, 0.63–0.92)			AKD vs. all other C-stat 0.76 (95% CI, 0.64–0.87)		
	HR	95% CI	p value	HR	95% CI	p value	HR	95% CI	p value
Age, per year	1.10	1.01–1.20	0.03	1.04	0.88–1.23	0.63	1.17	1.04–1.31	0.01
BMI SDS	1.24	0.88–1.74	0.23	1.59	0.85–2.96	0.15	1.66	1.01–2.72	0.05
eGFR, per ml/min/1.73 m <sup>2</sup>	1.01	1.0–1.01	0.15	1.02	1.01–1.04	0.007	1.01	1.0–1.02	0.04
Malignant HSCT indication <sup>a</sup>	0.71	0.26–1.89	0.49	0.14	0.02–1.1	0.06	0.40	0.12–1.41	0.16

<sup>a</sup>Reference: non-malignant HSCT indication.

BMI SDS, body mass index standard deviation score; eGFR, estimated glomerular filtration rate; HSCT, hematopoietic stem cell transplantation.

# Conclusions

- Overall incidence AKI stage I or higher in pediatric patients during the early period after allo-HSCT → **52.9%**.
- Approximately **one fifth (21.6%)** experience **AKI recurrence** and **one third (35.3%)** develop **AKD**.
- **Older age, higher BMI, and higher eGFR** at the day of transplant may have an effect on the risk of AKI development and its course.