

Anti-infective prescribing practices in critically ill children on continuous renal replacement therapy: a multicenter survey of French-speaking countries

Michael THY¹, Jerome Naudin², Mathieu Genuini², Stephane Leteurtre³, Morgan Recher³, and Mehdi Oualha⁴

¹Université Paris Cité

²Robert-Debré Mother-Child University Hospital

³Lille University Hospital Center

⁴AP-HP

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Abstract

Background Use of continuous renal replacement therapy (CRRT) in children receiving anti-infective drugs may lead to inappropriate concentrations with risks of treatment failure, toxicity and emergence of multidrug-resistant bacteria. We aimed to describe anti-infective prescribing practices in critically ill children undergoing CRRT. **Methods** An online survey to assess CRRT, anti-infective prescribing and therapeutic drug monitoring (TDM) practices was sent by e-mail to physicians working in pediatric intensive care units (PICUs) through the French-speaking Group of Pediatric Intensive Care and Emergency medicine (GFRUP). **Results** From April 1st 2021 to May 1st 2021, 26/40 different PICUs participated in the survey, corresponding to a response rate of 65%. Twenty-one were located in France and five abroad. All PICU practiced CRRT mainly with Prismaflex System. Anti-infective prescriptions were adjusted to the presence of CRRT in 23 (88%) PICUs mainly according to the molecular weight in 6 (23%), the molecule protein binding in 6 (23%) and the elimination routes in 15 (58%) including the residual diuresis in 9 (35%), to the CRRT flow in 6 (23%) and to the modality of CRRT used in 15 (58%), PICUs. There was a wide variability noticed between PICUs and between physicians in the same unit. Barriers to TDM were mainly an excessive delay in obtaining results in 11 (42%) and the lack of an on-site laboratory in 8 (31%) PICUs. **Conclusions** Our survey reported wide variability in anti-infective prescribing practices in children undergoing CRRT highlighting the gap in the knowledge and the need for education and recommendations

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