



children



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Neonatal Clinical Pharmacology

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Message from the Guest Editors

Pharmacotherapy is a very powerful intervention to improve outcome, and this is also true in neonates. The prescription of a given drug should result in a safe and effective intervention to treat or prevent a specific disease or risk in an individual patient or population while avoiding disproportional side-effects. Clinical pharmacology supports these aims in predicting drug-related (side)-effects driven by pharmacokinetics (PK) and pharmacodynamics (PD). The dynamic changes related to maturation and growth in newborns result in a unique setting with extensive variability. Non-maturational changes (such as disease characteristics, drug–drug interactions, pharmacogenetics, and lactation-related exposure) further add to this variability.

This is a growing and active field of clinical research, with several reports on PK, PD, pharmacovigilance and -safety, and pharmaco-epidemiology having been published. This clinical field is further supported by novelties in the methods that are currently available (low-volume sample analysis, population PK analysis, physiology-based PK).



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Special Issue