Acta Haematologica Polonica 2021
Number 6, Volume 52, pages 526–527
DOI: 10.5603/AHP.2021.0098
ISSN 0001–5814
e-ISSN 2300–7117

EDITORIAL

VIA MEDICA

Therapeutic drug monitoring: a key point in optimal treatment of invasive fungal disease

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Invasive fungal disease (IFD) remains a complication with high mortality, particularly in patients with acute leukemia, and in the setting of hematopoietic cell transplantation. In the strategy of management of IFD, azoles are one of the mainstay drugs. In order to maintain the correct therapeutic range of azoles which is both efficient and safe for the patient, therapeutic drug monitoring (TDM) is recommended [1]. In alignment with this, Polish scientific societies have recently recommended the use of posaconazole and voriconazole in various clinical conditions and strategies, with the support of TDM [2–5].

In this issue of "Acta Haematologica Polonica", Liszka et al. [6] in a pilot study present, for the first time in Poland, the use of TDM in IFD. The authors show that therapeutic drug monitoring of posaconazole is an effective approach to therapy of invasive fungal infections in pediatric patients. To determine drug concentration, they used the high-performance liquid chromatography with fluorescence detector (HPLC-FLD) method, which is currently regarded as the optimal standard for TDM for azoles [1, 7].

We must always bear in mind that the likelihood of toxicity associated with supratherapeutic azole serum concentrations can be as high as quadruple that of therapeutic concentrations [7], and that adequate TDM can prevent many adverse events. Our previous experience with IFD and its management [8, 9] indicate the need for more efficacious antifungal treatment.

Nevertheless, the current Polish guidelines [2, 5] are in line with increasing safety and efficacy in the treatment of infectious complications, something particularly necessary due to the development of new targeted anticancer therapy [10]. Therapeutic drug monitoring for antifungal azoles is still an unmet medical need, although we have taken a significant step forward.

Authors' contributions

JS — sole author.

Conflict of interest

Nothing to disclose.

Financial support

No financial support.

Ethics

The work described in this article has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans; EU Directive 2010/63/EU for animal experiments; Uniform requirements for manuscripts submitted to biomedical journals.

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Received: 22.10.2021 Accepted: 22.10.2021

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