



HAL
open science

Corrigendum to “Application of PK/PD Modeling in Veterinary Field: Dose Optimization and Drug Resistance Prediction”

Ijaz Ahmad, Lingli Huang, Haihong Hao, Pascal Sanders, Zonghui Yuan

► **To cite this version:**

Ijaz Ahmad, Lingli Huang, Haihong Hao, Pascal Sanders, Zonghui Yuan. Corrigendum to “Application of PK/PD Modeling in Veterinary Field: Dose Optimization and Drug Resistance Prediction”. *BioMed Research International*, 2017, 2017, pp.1408737. 10.1155/2017/1408737 . anses-01670638

HAL Id: anses-01670638

<https://anses.hal.science/anses-01670638>

Submitted on 21 Dec 2017

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L’archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d’enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Corrigendum

Corrigendum to “Application of PK/PD Modeling in Veterinary Field: Dose Optimization and Drug Resistance Prediction”

Ijaz Ahmad,^{1,2} Lingli Huang,¹ Haihong Hao,³ Pascal Sanders,⁴ and Zonghui Yuan^{1,3}

¹*National Reference Laboratory of Veterinary Drug Residues (HZAU) and MAO Key Laboratory for Detection of Veterinary Drug Residues, Huazhong Agricultural University, Wuhan, Hubei 430070, China*

²*The University of Agriculture Peshawar, Khyber Pakhtunkhwa 25130, Pakistan*

³*MOA Laboratory for Risk Assessment of Quality and Safety of Livestock and Poultry Products, Huazhong Agricultural University, Wuhan, Hubei 430070, China*

⁴*Laboratory of Fougères, French Agency for Food, Environmental and Occupational Safety, 94701 Maisons-Alfort Cedex, France*

Correspondence should be addressed to Ijaz Ahmad; ijaz_pharma@yahoo.com

Received 17 September 2017; Accepted 12 October 2017; Published 6 November 2017

Copyright © 2017 Ijaz Ahmad et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

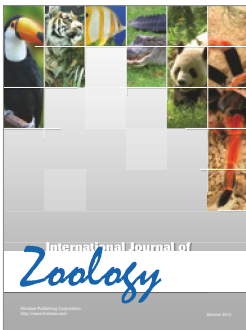
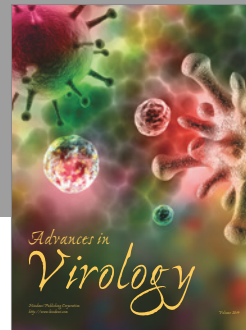
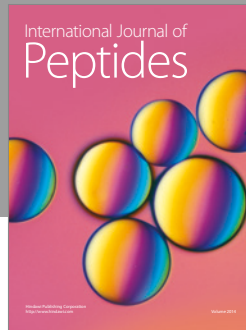
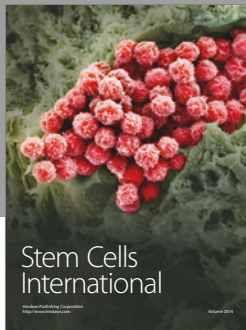
In the article titled “Application of PK/PD Modeling in Veterinary Field: Dose Optimization and Drug Resistance Prediction” [1], there was an error in Table 3. Some antibiotic groups were not correctly classified in Table 3 as raised by Benini and Fumagalli in [2]. The correct statement is that ketolides exhibit concentration-dependent killing and have prolonged persistence and the PK/PD indices responsible for efficacy are AUC₂₄/MIC. Clindamycin and vancomycin exhibit time-dependent killing and have moderate to prolonged persistence and PK/PD indices responsible for efficacy are AUC₂₄/MIC. The corrected table is shown as follows (see Table 3).

TABLE 3: Classification of antibacterial drugs according to pharmacokinetics and pharmacodynamics indices: different groups of antibacterials, their bacterial effect, and PK/PD integration most closely related their clinical effect.

| Group | Drugs | PK/PD indices | Activity | Bacterial effect | Duration of PAE | References |
|-------|--|----------------------------|--|-------------------------|--|------------------------------|
| 1 | Aminoglycosides | C_{max}/MIC or AUC/MIC | Primarily bactericidal | Concentration-dependent | Prolonged | Martinez et al., 2014 [17] |
| | Fluoroquinolone | AUC/MIC | Bactericidal | Concentration-dependent | Prolonged | Martinez et al., 2014 [17] |
| | Enrofloxacin e | $C_{peak}/MIC/AUC : MIC$ | Bacteriostatic bactericidal | Concentration-dependent | | Balaje et al., 2013 [49] |
| | Azithromycin | AUC_{24}/MIC | | | | |
| | Tetracycline | AUC_{24}/MIC | Bacteriostatic | Time-dependent | Prolonged | Martinez et al., 2014 [17] |
| | Colistin | AUC/MIC | | Concentration-dependent | Short | Hengzhuang et al., 2012 [59] |
| | Metronidazole | $C_{peak}/MIC/AUC : MIC$ | | Concentration-dependent | | Paul et al., 2005 [60] |
| 2 | Ketolides | AUC/MIC | Bacteriostatic or bactericidal | Concentration-dependent | Prolonged | Martinez et al., 2014 [17] |
| | Penicillins Carbapenems Cephalosporins | $\%T > MIC$ | Bactericidal | Time-dependent | Non or brief against Gram-negative and prolonged against Gram-positive | Martinez et al., 2014 [17] |
| | Lincosamides (clindamycin) | AUC/MIC | Bacteriostatic | Time-dependent | Brief | Martinez et al., 2014 [17] |
| | Trimethoprim | $\%T > MIC$ | Bacteriostatic alone and bactericidal with combination | Time-dependent | Brief | Martinez et al., 2014 [17] |
| | Glycopeptides (vancomycin) | AUC/MIC | Bactericidal | Time-dependent | Prolonged | Martinez et al., 2014 [17] |

References

- [1] I. Ahmad, L. Huang, H. Hao, P. Sanders, and Z. Yuan, "Application of PK/PD modeling in veterinary field: dose optimization and drug resistance prediction," *BioMed Research International*, vol. 2016, Article ID 5465678, pp. 1–12, 2016.
- [2] A. Benini and G. F. Fumagalli, "Comment on 'application of PK/PD modeling in veterinary field: Dose optimization and drug resistance prediction,'" *BioMed Research International*, vol. 2017, pp. 1-2, 2017.



Hindawi

Submit your manuscripts at
<https://www.hindawi.com>

