Int J Clin Pharm (2011) 33:877
DOI 10.1007/s11096-011-9558-2

ERRATUM

Erratum to: 39th ESCP European symposium on clinical pharmacy & 13th SFPC congress: clinical pharmacy at the front line of innovations. 21–23 October 2010, Lyon, France

Erratum to: Int J Clin Pharm (2011) 33:285–467
DOI 10.1007/s11096-011-9481-6

Abstracts

ERRATUM—This abstract should have been included in the abstract set.

CPK-5

Vancomycin dose adjustment in obese patients

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Introduction Multiple pharmacokinetic (PK) studies have demonstrated that total body weight is the best method to dose vancomycin. However, clinicians usually prescribe the standard dose of antibiotic (1 g/12 h), independently of weight.

The aim of this study is to obtain the percentage of obese patients treated with vancomycin at the standard doses of 1 g/12 h with suboptimal serum concentrations.

Materials & Methods Study conducted at 800-bed University General Hospital.

Observational study from July 2009 to May 2010 in (1) obese patients (BMI $\geq$ 30 kg/m^2), (2) with creatinine clearance (Clcr) >50 ml/min and (3) monitored for vancomycin concentrations after the third dose of antibiotic (dosage: 1 g/12 h).

Individual PK parameters were estimated by assuming a bicompartmental PK model and Bayesian forecasting (PKS® Abbot Software). Afterwards, daily dose was adjusted to achieve a minimum vancomycin concentration at steady state (C^{SS}_{min}) of 7–15 mg/l and a maximum vancomycin concentration at steady state (C^{SS}_{max}) of 20–40 mg/l, in case of bacteraemia, or C^{SS}_{min} of 15–20 mg/l and C^{SS}_{max} of 30–40 mg/l, in case of meningitis, pneumonia, osteomyelitis, wound infection or abscesses.

Data reviewed were: (1) demographics; (2) vancomycin serum concentrations withdraw 30 min before dose (C^{SS}_{min}) and 2 h after ending antibiotic infusion (C^{SS}_{max}) and (3) individual PK parameters.

Results Ninety-one patients were recruited. Only 37 out of 91 patients fulfilled the inclusion criteria. Demographic data: 54% men (20 patients), age (mean ± SD) 62.8 ± 12.0 years, weight 95.9 ± 17.2 kg, BMI 35.2 ± 5.2 kg/m^2, Clcr 70.1 ± 17.1 ml/min. Observed vancomycin serum concentrations after 3 doses of 1 g/12 h: mean C^{SS}_{min} 7.0 ± 3.3 mg/l, mean C^{SS}_{max} 16.4 ± 5.7 mg/l. Individual drug PK parameters (mean ± SD): steady-state volume of distribution 59.6 ± 13.4 l, total clearance 6.1 ± 2.0 l/h.

Dose increase was needed in 27 patients (73.0%): 1,000 mg/6 h was set in 1 patient, 1,250 mg/8 h in 2 patients, 1,000 mg/8 h in 15 patients and 1,250 mg/12 h in 9 patients. Dose decrease to 750 mg/12 h was needed in 3 patients (8.1%). Six patients (16.2%) remained with the initial regimen, and in 1 case (2.7%), vancomycin was switched to linezolid because of *Staphylococcus aureus* methicillin-resistant pneumonia.

Discussion, Conclusion Results indicate that a high percentage of the patients included were underdosed (75.7%). Monitoring serum concentrations of antibiotic is necessary to adjust vancomycin dose to achieve therapeutic concentrations at the target infection site.

Bibliographic references

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Keywords Dose adjustment, Obese patients, Vancomycin

The online version of the original article can be found under doi:10.1007/s11096-011-9481-6.