Pharmacotherapy: pharmacokinetics and pharmacodynamics

Pharmacotherapy: pharmacokinetics and pharmacodynamics (including: ADE, TDM, DUE)

PHC-001 AMIKACIN DOING TO TREAT RESPIRATORY TRACT INFECTIONS ACCORDING TO PATIENT’S BODY MASS INDEX
doi:10.1136/ejopharm-2013-000276.346
M Barrantes-González, M Marín-Casino, B Lopez, S Ortonobes, E Salas, S Grau. Hospital de Mar, Pharmacy, Barcelona, Spain

Background Body mass index (BMI) is a factor related to the disposition of aminoglycosides (AMG). Dosage is based on total body weight (TBW) or adjusted body weight (ABW) according to patients’ BMI.

Purpose To assess if the amikacin dosage prescribed to patients matches with the dosage based on BMI.

To calculate the optimal cut-off point of BMI that predicts a 10% discrepancy between dosage based on TBW or ABW.

Materials and Methods Retrospective study January 2003–December 2010 performed in a 450-bed tertiary hospital.

Dosage of 15 mg/TBW was considered except for patients with TBW > 30% over ideal body weight (IBW). That dose was calculated according to ABW: ABW(0g) = IBW + 0.4(TBW–IBW) as recommended.


Patients excluded: <18 years, CICr < 60 ml/min, sepsis, lack of data.


Pharmacokinetic analysis: Bayesian estimation compartmental model (PKS programme)

Statistical analysis: ROC curve.

Results 153 patients (79.70% men). Mean (±SD): age: 62.12 years (±15.48); TBW: 65.52 kg (±13.43); height: 166.88 cm (±7.44); serum creatinine baseline: 0.68 (±0.19) and CrCl: 97.32 mL/min (±34.67).

Difference between TBW dose vs. ABW dose (mg)(%):

BMI <16: 16.45 vs. 16.45(0%); BMI[16–18.49]: 16.57 vs. 16.57(0%); BMI[18.5–24.9]: 15.28 vs. 15.61(2.2%); BMI[25–29.9]: 12.70 vs. 14.30(11.2%); BMI[30–34.9]: 11.56 vs. 14.34(19.5%); BMI[35–39.9] and [>40]: 1 patient.

A ROC curve was built to determine the best cut off point of BMI: 26 mg/m2.

Difference between recommended dosage and prescribed dosage (mg):

BMI[<16]: +1.45; BMI 16–18.49: +1.58; BMI[18.5–24.9]: +0.64; BMI[25–29.9]: −0.70; BMI[30–34.9]: −0.66; BMI[35–39.9] and [>40]: 1 patient.

Conclusions Considerable variation between the dosage of amikacin based on TBW and ABW was observed with a reduction of recommended dose in patients with BMI ≥ 25 kg/m2 and an overdose in patients with BMI < 24.9 kg/m2.

A reduction of 10% or more of the adjusted calculated dose of amikacin was observed in patients with BMI ≥ 26 kg/m2.

No conflict of interest.

PHC-002 ANALYSIS OF THE INCIDENCE OF POTENTIAL DRUG INTERACTIONS IN HOSPITALISED PATIENTS
doi:10.1136/ejopharm-2013-000276.347
M Wieczorek, SPZ WSS, Hospital Pharmacy Department, Rybnik, Poland

Background Prescriptions with more than one drug increase the risk of drug-drug interactions, treatment failure, large pharmacological effects and adverse events.

Department of PHC-002