

ANALYSIS OF FREQUENCY OF UNDERDOSING IN OBESE PATIENTS TREATED WITH VANCOMYCIN

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BACKGROUND

- ✓ Obese patients with normal serum creatinine have increased renal clearance, consequently the dose of some drugs, such as vancomycin should be dosed based on the actual body weight (ABW).
- ✓ According to American Society of Health-System Pharmacists (ASHP) guidelines, the recommended dosing regimen is 15-20 mg/kg ABW/12h iv, with subsequent dosage adjustment based on serum vancomycin concentrations.
- ✓ Nevertheless in the practice of our hospital vancomycin is often used as a fixed dose regimen regardless of patient weight.

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PURPOSE

To determine the frequency of underdosing of vancomycin in obese patients and the possible risk factors associated

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MATERIALS AND METHODS

- ✓ A single-center, retrospective, observational study since January 2014- September 2016

Inclusion criteria:

- ✓ Morbidly obese adult patients (Body Mass Index ≥ 30)
- ✓ With at least one trough level obtained at steady state
- ✓ CrCl > 35 ml/min, calculated by Salazar-Corcoran formula

- ✓ The therapeutic level for serious infections (endocarditis, osteomyelitis, meningitis, nosocomial pneumonia by *Staphylococcus aureus*, methicillin-resistant *Staphylococcus aureus* bacteraemia) was 15-20 mg/mL, whereas for uncomplicated infections the optimal interval was 10-15 mg/mL, according to the ASHP guidelines.
- ✓ Binary logistic regression was done to identify variables associated with underdose, using SPSS15.0®

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RESULTS

46 patients were included:

- ✓ Mean age (\pm SD) was 70,78 \pm 12,5 years
- ✓ Female 63 %
- ✓ Mean weight (\pm SD) was 87,8 \pm 13,9 kilos
- ✓ Mean height was 1,59 \pm 0,09 metres
- ✓ Underdose: 34,8 %

Variables associated with underdose	OR	CI 95%	p
Gender	-	-	0,143
Body Mass Index classification	-	-	0,679
Creatinine	-	-	0,079
Age > 65 years	0,206	0,04-0,98	< 0,05
Initial dosing regimen of 1000mg/12h	0,008	0,0-0,55	< 0,05

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CONCLUSIONS

- ✓ It is important to monitor the levels of vancomycin in obese patients specially with age >65 years and with an initial dosing regimen does not adjusted to patient weight.
- ✓ There is not enough data currently to make statements to guide vancomycin dosing in obese patients, so it is necessary to make more studies focus on it.