

APPROPRIATENESS OF AN INITIAL PREFIXED DOSE OF VANCOMYCIN AND RISK FACTORS FOR OVERDOSE

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1 BACKGROUND

Initial intravenous dosing of vancomycin should be based on actual body weight (ABW) and subsequent dose titration based on renal function and serum trough concentrations. Manufacture's labeling recommends 500 mg/6h or 1000 mg/12h (the most commonly used dose)

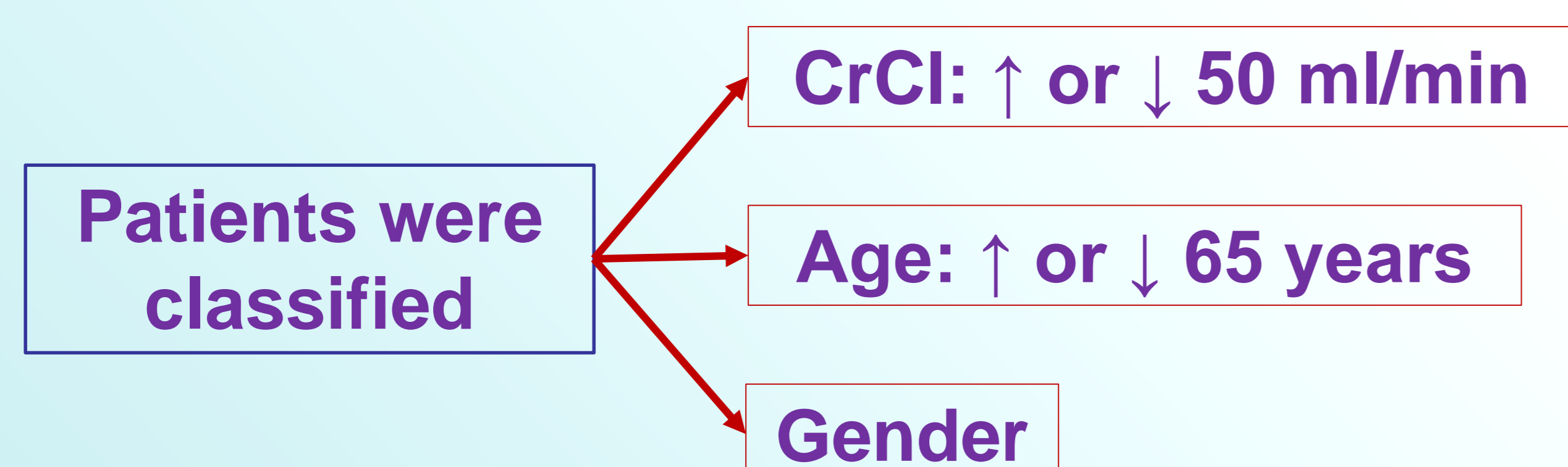
2 OBJECTIVES

To analyse the frequency of vancomycin-overdose when a standard dose of 1000 mg/12h is used, and its association with age, gender and creatinine clearance (CrCl)

3 MATERIAL AND METHODS

Study	Design	Retrospective observational
	Period	January 2014 - September 2015

All patients treated with at least four doses of vancomycin were included. Age, gender, CrCl and trough level of vancomycin, collected before the fourth dose, were obtained.



Variables were compared with trough levels of vancomycin (>20mcg/ml was considered overdose). Bivariate analysis was done to identify variables associated with overdosing Chi-square or Fisher exact test.

4 RESULTS

Sociodemographic data	Male: 61.3 % (46)	N=75
	Age: 68.7±13.8 years	

Overdosed patients were 25 (33.3 %)
Patients were classified:

	50 <20 mcg/ml	25 >20 mcg/ml
Male	33	13
Female	17	12
<65 years	18	3
>65 years	32	22
CrCl < 50ml/min	3	12
CrCl > 50ml/min	47	13

No association between gender and overdose was found (p=0.241). Statistical analysis suggested a significant relationship between baseline CrCl <50 ml/min and overdose (OR=14.5; CI95% 3.5-59.1; p<0.01) and age>65years and overdose (OR=4.1; CI95% 1.1-15.7; p=0.029)

5 CONCLUSIONS

A prefixed dose of 1000mg/12h, particularly in >65 years patients and renal impairment could lead to toxic levels with vancomycin .

Initial vancomycin dose should be individualized according to age and renal function, and subsequent dosing should be adjusted based on serum trough vancomycin concentrations.

**Although data regarding optimal initial dose of vancomycin in the elderly are scarce, our results are consistent with those reported by Guay et al. (1993), Comparison of Vancomycin Pharmacokinetics in Hospitalized Elderly and Young Patients Using a Bayesian Forecaster. Journal of Clinical Pharma, 33: 918-922.*