WHICH VANCOMYCIN DOSING SCHEDULE FOR SIGNIFICANTLY PRETERM INFANTS?

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Background: Coagulase negative staphylococcal infection is the commonest organism identified in preterms and usually treated with vancomycin. Dosing regimes for significantly preterm infants vary between reference sources and lack supportive data.

Aims: To assess vancomycin levels in infants < 29 weeks (or 1.2 kgs) receiving their first vancomycin course, and analyse levels achieved in relation to regime received.

Methods: An audit of first vancomycin levels achieved was undertaken and levels were categorised as adequate (5-20mg/l), sub-therapeutic (< 5mg/l) or high (>20mg/l). The proportion of infants with therapeutic levels resulting from dose regimes from 3 common sources (BNFc, Northern Neonatal Formulary(5) and AAP guidance) was analysed.

Results: The Northern Neonatal Formulary achieved the highest proportion of adequate levels when given as per recommendation. BNFc/AAP guidance resulted in higher proportions of subtherapeutic levels when given as per their recommended dosing.

	Dose in relation to recommendation								
Guidance as per	As recommended			Lower			Higher		
→% (n) with trough (→=5-20mg/l, ↓=<5mg/l, ↑=>20mg/l)	→	↓	↑	→	↓	↑	→	↓	↑
NNF5	100 (2)	-	-	61 (7)	38 (5)	-	-	-	-
BNFc	58 (7)	42 (5)	-	100 (1)	-	-	100 (2)	-	-
AAP	58 (7)	42 (5)	-	100 (1)	-	-	100 (2)	-	-

[Vancomycin levels by regime]

Conclusion: Guidance in the NNF5 appears most suited to significantly preterm (or < 1.2 kg) infants.