

Vancomycin during continuous venovenous hemofiltration (CVVH) is either administered by intermittent infusion (II) or continuous infusion (CI). In this patient population, the best method to rapidly achieve target serum concentrations of 15 mcg/ml to 25 mcg/ml remains to be elucidated” Hsin et al (2015).

Reference:

Hsin, L., Yana B., De Moya, M., Lee, J. and Schmidt, U. (2015) Vancomycin continuous infusion versus intermittent infusion during continuous venovenous hemofiltration: slow and steady may win the race. *Annals of Intensive Care*. May 8th.

Vancomycin continuous infusion versus intermittent infusion during continuous venovenous hemofiltration [@ivteam #ivteam](http://ctt.ec/1CgdW+)

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Abstract (provisional):

**Background:** Vancomycin during continuous venovenous hemofiltration (CVVH) is either administered by intermittent infusion (II) or continuous infusion (CI). In this patient population, the best method to rapidly achieve target serum concentrations of 15 mcg/ml to 25 mcg/ml remains to be elucidated. We hypothesized that CI would achieve a target serum level of 15 mcg/ml to 25 mcg/ml within 24 h of the initiation of therapy more consistently than II.

**Methods:** A retrospective cohort study of adult patients admitted to the intensive care unit (ICU) between 2011 and 2014 receiving intravenous vancomycin with 24-hour serum level while on CVVH was included. Patients were excluded from this review if they had residual renal function during CVVH, were concomitantly on extracorporeal membrane oxygenation, or if the first dose of vancomycin was received six or more hours prior to the initiation of CVVH. The primary outcome was the achievement of a therapeutic level of 15mcg/ml to 25 mcg/ml by 24 hours.

**Results:** Fifty-nine patients met the inclusion criteria and 14 received CI and 45 in II. Therapeutic 24-hour levels were achieved in 14/14 versus 2/45 in CI and II, respectively ( $p < 0.001$ ). Mean 24-hour vancomycin levels were  $20.35 \pm 2.78$  mcg/ml for CI compared to  $9.7 \pm 3.52$  mcg/ml for II ( $p < 0.001$ ). Mean loading dose was  $26.65 \pm 3.06$  mg/kg for CI compared to  $17.58 \pm 5.72$  mg/kg for II ( $p < 0.001$ ). Daily maintenance doses were  $15.66 \pm 6.26$  mg/kg for CI compared to  $17.28 \pm 4.96$  mg/kg for II ( $p = 0.339$ ). In the subgroup of 27



patients who received vancomycin-loading dose  $>20$  mg/kg, mean 24-hour levels were  $20.35 \pm 2.78$  mcg/ml for CI versus  $11.8 \pm 2.7$  mcg/ml for II ( $p < 0.001$ ). No significant differences were found between patients in the two groups with respect to CVVH rate and length of CVVH prior to vancomycin administration.

Conclusions: The results of our study suggest that critically ill patients on CVVH treated with CI achieved the target level faster than II and consistently keep the vancomycin level within target range.

Full Text

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