

Effect of intradialytic parenteral nutrition on delivered Kt/V.

[McCann L](#), [Feldman C](#), [Hornberger J](#), [Belanger S](#), [Maru L](#), [Torres M](#), [Tootell F](#), [Gotch F](#).

Roche Global Pharmacoeconomic Research, Roche Pharmaceuticals, East San Jose, CA, USA.
mccannl@kidneycare.com

Abstract

The purpose of the study is to determine the effect of intradialytic parenteral nutrition (IDPN) and its components on delivered Kt/V (Kt/Vd). Nineteen patients undergoing routine outpatient hemodialysis and receiving IDPN were enrolled onto this prospective, crossover study. To reduce the confounding of time, assigned treatment in the first week was random, with patient crossover in the fourth week. Patients served as their own controls. In the successive 6 weeks, patients received IDPN solutions differing in whether amino acids (AAs), dextrose, or lipids were included or excluded. The primary end point was Kt/Vd, measured with a single-pool, variable-volume urea kinetic model. Other factors with the potential to impact on Kt/Vd were controlled and/or monitored. The administration of IDPN with all three components resulted in a significantly reduced mean Kt/Vd. When patients received AA-containing solutions, mean Kt/Vd was significantly less than when IDPN was withheld. Administration of solutions without AA resulted in a mean Kt/Vd not significantly different from mean Kt/Vd when IDPN was withheld. The mean prescribed Kt/V did not differ from mean Kt/Vd when IDPN was withheld. Simulation analyses of increased urea generation (G_u) showed an increase in patient urea volume and decreased Kt/V similar to the study findings. AA-containing IDPN solutions resulted in a significant reduction in Kt/Vd, possibly mediated by increased G_u . Administration of IDPN solutions may have important clinical and economic consequences that warrant further investigation.

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