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Authors

Dezfuli, Arezu
Ricker, Michelle
Scholl, Deborah
[et al.](#)

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Hypoalbuminemia Severity Predicts Intradialytic Parenteral Nutrition (IDPN) Effectiveness in Hemodialysis Patients

Arezu Dezfuli, MD¹, Michelle Ricker, RD²; Deborah Scholl, RD²;

Stanley M Lindenfeld, MD²; and Kamyar Kalantar-Zadeh, MD PhD^{1,2}

¹Harold Simmons Center for Kidney Disease Research & Epidemiology, Harbor-UCLA, Torrance, CA; and ²Pentec Health, Boothwyn, PA

Background: Intradialytic parenteral nutrition (IDPN) is currently used infrequently to correct hypoalbuminemia in maintenance hemodialysis (MHD) patients (pts). Correcting hypoalbuminemia may significantly improve survival in MHD pts (Kalantar-Zadeh et al, *NDT* 2005; 20:1880-8). We hypothesized that IDPN responders, i.e., those whose baseline serum albumin [S-albumin] increased persistently during IDPN, have unique characteristics. **Methods:** In a recent cohort of MHD pts who had received IDPN through Pentec Health, predictors of IDPN response were examined using multivariate logistic regression. **Results:** A total of 196 MHD patients underwent IDPN for 5.8±2.4 mo between 2002 and 2006. Baseline serum albumin (2.68±0.47 g/dL) was lower in the IDPN responders than the non-responders (see table):

MHD patients' characteristics	Responder (n=142)	Nonresponder (n=54)	p-value
Age (yrs)	64±15	65±14	0.81
Diabetes mellitus	53%	57%	0.59
Gender (% women)	54%	50%	0.57
IDPN time (months)	5.7±2.2	6.1±2.8	0.27
S-albumin (mg/dL)	2.62±0.47	2.85±0.44	0.002
S-albumin <3 mg/dL	74%	54%	0.006
□albumin≥0.5 mg/dL	59%	n/a	n/a

In multivariate logistic regression analyses adjusted for age, gender, diabetes, and IDPN time, the presence of severe hypoalbuminemia (S-albumin <3.0 g/dL, n=134) at baseline was associated with 2.5 time higher chance of responding to IDPN (95% confidence interval [CI]: 1.3-4.9, p=0.006). The same severe hypoalbuminemia was associated with 3.8 times (95% CI: 1.9-7.5, p<0.001) increased likelihood of serum albumin correction by at least 0.5 g/dL. **Conclusions:** In most hypoalbuminemic MHD pts who undergo IDPN an increase in serum albumin is observed, and the likelihood and magnitude of response is associated with the severity of baseline hypoalbuminemia.