Title
Association between changes in urea kinetic based protein intake over time and mortality in hemodialysis patients

Journal
AMERICAN JOURNAL OF KIDNEY DISEASES, 45(4)

ISSN
0272-6386

Authors
Shinaberger, CS
Kilpatrick, RD
McAllister, CJ
et al.

Publication Date
2005

ASSOCIATION BETWEEN CHANGES IN UREA KINETIC BASED PROTEIN INTAKE OVER TIME AND MORTALITY IN HEMODIALYSIS PATIENTS

Chris S Shinaberger[1,2], Ryan D Kilpatrick[1], Charles J McAllister[3], Joel D Kopple[1], and Kamyar Kalantar-Zadeh[1]. *[1]Harbor-UCLA, Torrance, CA; [2]UCLA Epidemiology, Los Angeles, CA; [3]DaVita, El Segundo, CA.*

Protein-energy malnutrition may be associated with high death rates in maintenance hemodialysis (MHD) patients (pts). Whether changes in protein intake over time have significant & independent associations with death in MHD pts is not clear. We examined the relation between urea kinetic based normalized protein nitrogen appearance (nPNA or nPCR) & mortality in time-dependent multivariate models in a 2-yr cohort of 53,933 MHD pts from virtually all DaVita dialysis units in the USA. Time-dependent Cox models were explored to estimate death hazard ratios controlled for case-mix, Kt/V & available nutritional & inflammatory markers. The best survival was associated with the nPNA between 1.2 & 1.4 g/kg/day, whereas nPNA<0.9 or >1.4 g/kg/day linked to higher mortality. A decrease in protein intake over the first 6 months of the cohort was associated with higher mortality rate in the subsequent 18 months, A moderate (0.1 to 0.2 g/kg/day), but not a high (≥0.2), increase in nPNA tended to correlate with greater survival (Figure). Hence, a reversed J-shaped association between nPNA & death exists in MHD pts, & a fall in protein intake over time heralds increased subsequent risk of death rate in these pts.