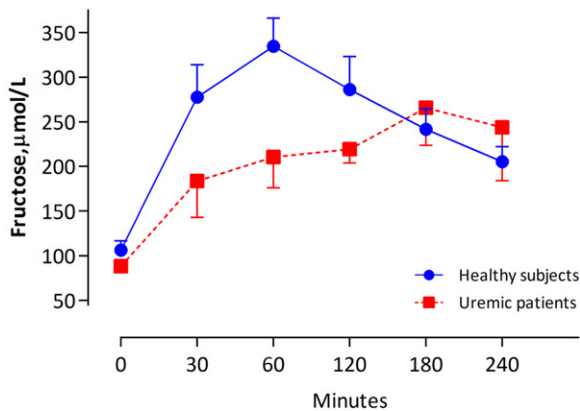


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DIETARY PROTEIN INTAKE AND SURVIVAL IN 100,088 MAINTENANCE HEMODIALYSIS PATIENTS: THE ROLE OF RACE AND ALBUMIN

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Decreased dietary protein intake may be associated with increased mortality risk in individuals undergoing maintenance hemodialysis (MHD). We examined 8-year all-cause mortality in 100,088 MHD patients from DaVita dialysis clinics in the US (2001–2009) and hypothesized that survival is better across higher levels of nPNA, (nPCR, a dietary protein intake surrogate) with consistent trends across race and in hypoalbuminemic patients. Time-averaged Cox models were used to estimate death hazard ratios for quarterly averaged nPNA categories controlled for case-mix, comorbidity, dialysis dose, and available markers of malnutrition-inflammation-complex syndrome (MICS). In all patients, both low (< 0.6 g/kg/day, HR 1.53, [1.47–1.59]) and high nPNA (≥ 1.4 g/kg/day, HR 1.26, [1.19–1.34]) were associated with higher all-cause mortality when compared with the reference (1.0–< 1.1 g/kg/day). This reverse-J-shape association was also found in sub-analyses performed among racial groups and in hypoalbuminemic patients (Figure). Hence, hypoalbuminemic patients of all races may benefit from higher protein intake, which needs controlled trial to verify.



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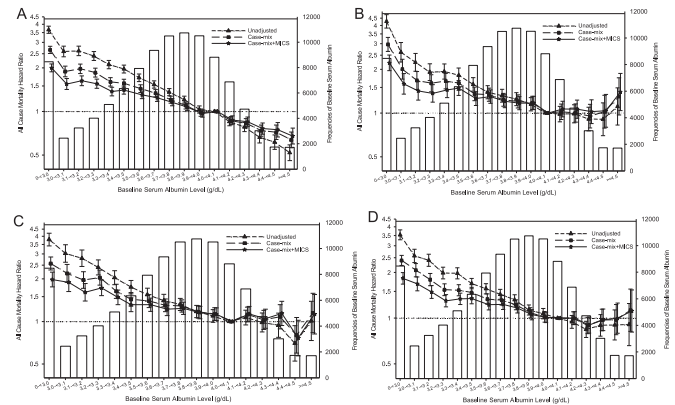
ASSOCIATION OF SERUM ALBUMIN AND MORTALITY IN ELDERLY DIALYSIS PATIENTS

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Low serum albumin level is the strongest mortality-predictor in maintenance hemodialysis (MHD) patients. It is not known whether this association is consistent across all age groups, especially in the elderly. We examined the association of serum albumin and all-cause mortality in 105,523 MHD patients across different age groups using Cox models to estimate death hazard ratios

for quarterly averaged serum albumin increments controlled for case-mix, comorbidity, dialysis dose, and available markers of malnutrition-inflammation-complex syndrome (MICS) in all age groups. In those < 65 yr, higher alb > 4.0 g/dL continues to provide incremental survival advantage (Panel A), whereas in patients > 65 yr old, no additional survival gain is observed beyond 4.0–g/dL (Panels B-D).

High albumin levels are linearly associated with greater survival in all MHD patients although in the elderly gain stops at albumin > 4.0 g/dL.



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WAIST CIRCUMFERENCE AS A PREDICTOR OF MORTALITY IN PERITONEAL DIALYSIS PATIENTS

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Body fat gain is a common finding among peritoneal dialysis (PD) patients, and the accumulation of adipose tissue occurs predominantly in the abdominal area. Waist circumference (WC) is a reliable marker of abdominal obesity and its association with worse outcomes has been demonstrated in nondialysis and hemodialysis patients. Herein, we aimed at investigating whether WC measurements as well as the overtime changes in WC were able to predict mortality in PD patients.

This prospective study included 109 prevalent PD patients [57% male, age 52 ± 16 years, 32% diabetics, 48% BMI ≥ 25 kg/m²]. WC was measured at umbilicus level (empty abdominal cavity) at baseline and after 6 months. WC measurements > 88 cm for women and > 102 cm for men were considered as increased. Nutritional status and laboratory parameters were also evaluated. Mortality was registered during a period of 48 months.

At baseline, increased WC was observed in 55.3% of women and 22.6% of men. A total of 60.5% of the PD patients increased WC after 6 months. Patients who died during the follow-up (nonsurvival group, n=27) were older than the survivor group. A significant increase in WC was observed in the former group. In the cox regression analysis adjusting for sex, age, length on PD, diabetes, BMI, serum albumin and C-reactive protein, increased WC at baseline was associated with mortality. Adjusting for confounders, 6-month increase in WC was also a predictor of mortality in these patients. Increased WC at baseline and overtime changes in WC were both associated with mortality in PD patients.

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ADDUCTOR POLLICIS MUSCLE THICKNESS AS A PREDICTOR OF MUSCLE STRENGTH IN HEMODIALYSIS PATIENTS

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Muscle mass remains a challenge in the nutritional assessment of hemodialysis (HD) patients. The adductor pollicis muscle thickness (APMt) has emerged as a promising marker of muscle mass in the general population. Thus, we aimed to evaluate whether APMt is able to predict handgrip strength (HGS), a valid muscle mass marker in HD patients. This cross-sectional study evaluated a total of 73 patients (52.3 ± 17 years, 56 months on HD, 48% malnourished by