

VAL 77 – Extracellular Fluid Volume and Mortality in Hemodialysis.

OBJECTIVE: We investigated whether the amount of extracellular water (ECW) assessed by bioimpedance analysis (BIA) predicts mortality in hemodialysis (HD) patients.

SUBJECTS /METHODS: In June 2006, ECW was measured by multifrequency BIA (**Bodystat Quadscan 4000, British Isles**) on a midweek interdialytic day and was corrected for body surface area (BSA) in 502 maintenance HD patients (mean age 55.9 ± 13.5 yrs, HD duration 54 ± 42 mo, female 41%, diabetes 35.8%). Demographical, clinical and laboratory data were recorded at the time of analysis. Overall and cardiovascular (CV) mortality were assessed during a mean follow-up of 22 ± 17 months (1 to 36).

RESULTS: Ninety-three deaths were observed during follow-up, 53 from CV diseases. ECW-BSA was significantly lower in survivors compared to non-survivors (9.63 ± 0.73 vs 9.90 ± 0.83 L/m, respectively; $p=0.004$). In multivariate Cox regression analysis, after adjusting for all variables, **ECW-BSA was an independent predictor of both overall and CV mortality** (RR: 1.48, $p=0.007$ and RR: 1.80, $p=0.002$; respectively) (table). Patients with ECW-BSA below 9.62 L/m² (median value) had a significantly better 3-year cumulative survival than patients with a ECW-BSA equal or higher than 9.62 L/m² ($p=0.01$) (figure).

CONCLUSION: High extracellular fluid volume is an independent predictor of both cardiovascular and overall mortality in HD patients.

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