Clinical and/or Bench Research
Joshua Lang

Title: Serum albumin as an important predictor of non-AIDS events in HIV infection

Committee:
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OBJECTIVE:
We examined the short-term and long-term associations of serum albumin with mortality and cardiovascular disease among HIV-infected veterans.

DESIGN:
Retrospective cohort analysis using a national database of US veterans with HIV infection.

METHODS:
This analysis evaluated all HIV-infected veterans in the Department of Veterans Affairs HIV Clinical Case Registry (CCR), a national database consisting of demographic, clinical, laboratory, pharmaceutical, and viral status data. There were 25522 patients enrolled between 1986 and 2007. We evaluated the associations of baseline and time-updated serum albumin levels with all-cause mortality, atherosclerotic cardiovascular disease, and heart failure by multivariate proportional hazards models.

RESULTS:
Over 21 years, there were 10869 deaths; the cumulative mortality was 73.2 per 1000 person-years. After multivariate adjustment for covariates measured at baseline, the lowest category of serum albumin (<2.5g/dl) was associated with a higher mortality risk compared with the highest category (>4g/dl; hazard ratio 3.00; 2.67-3.37). When analyzed as a time-dependent model, the association strengthened substantially (15.1; 14.0-16.4). Findings were similar for atherosclerotic cardiovascular disease and heart failure. We stratified the baseline mortality model by year of follow-up and found that albumin was more strongly associated with deaths that occurred within 1 year of baseline (9.29; 7.85-11.0) than in the second (1.66; 1.18-2.33) or third (1.22; 0.77-1.96) year after measurement.

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CONCLUSION:
Among ambulatory HIV-infected patients, lower serum albumin levels are strongly predictive of mortality risk, particularly within 1 year.


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