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The Association of Serum Cholesterol and Statin Use With All-Cause Mortality Across Estimated Glomerular Filtration Rate (eGFR) Levels in United States Veterans and NHANES Cohorts

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Abstract 12547: The Association of Serum Cholesterol and Statin Use With All-Cause Mortality Across Estimated Glomerular Filtration Rate (eGFR) Levels in United States Veterans and NHANES Cohorts

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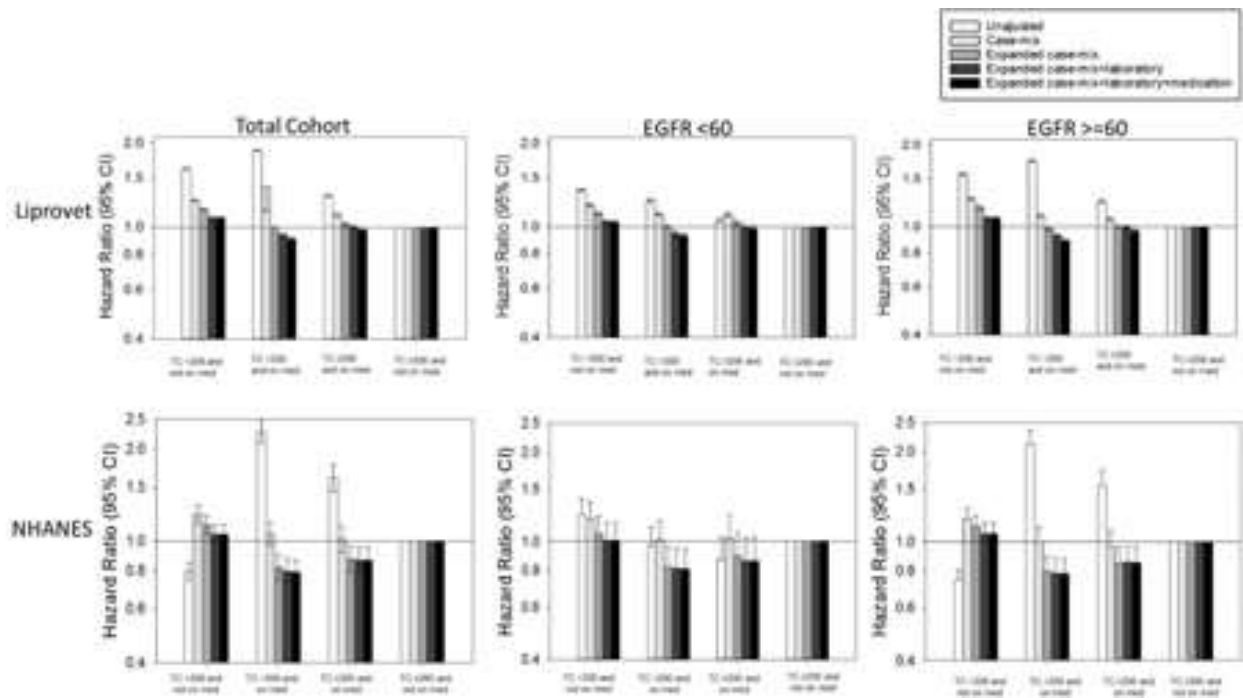
Abstract

Background: Chronic kidney disease (CKD) patients have displayed a paradoxical association between total cholesterol (TC) and mortality, where CKD patients with elevated TC did not display an increased mortality risk. However, this TC-mortality relationship amongst CKD patients requires further study using large databases to assess the impact CKD stage, pharmacologic therapy, and patient population has.

Methods: Retrospectively, two cohorts were studied using LIPROVET and NHANES data. Among the cohorts, there were 2,131,536 LIPROVET US veterans examined from 2004-2006 and 39,899 NHANES patients from 1999-2014. We examined the association of TC and statin use with all-cause mortality in patients with eGFR <60 and eGFR ≥60 mL/min/1.73m² using Cox Proportional Hazards model. Models were adjusted for demographics, comorbidities, smoking status, alcohol intake, income, education, laboratory measures, and medications. Those with TC ≥200 mg/dL not on statin were used as reference.

Results: The LIPROVET patients had a mean age of 63±14 and were 81% White and 5% female. LIPROVET patients with TC <200 mg/dL not on statin had a higher mortality risk compared to reference across all levels of adjustment and eGFR. Whereas those on statin, regardless of TC levels, had a lower to null mortality risk in the fully adjusted model. NHANES patients had a mean age 48±19 and were 46% White and 50% male. NHANES patients with TC <200 mg/dL not on statin had a trend of higher to null mortality risk compared to reference across eGFR groups after full adjustment. Those on statin, independent of TC levels, had a significantly lower mortality rate across all eGFR groups.

Conclusion: Compared to patients with TC ≥200mg/dL not on statin, patients with lower TC without statin had a higher mortality risk, while patients with statin had lower mortality risk regardless of TC level across all eGFR groups. Physicians may consider initiating or continuing statin therapy for CKD patients independent of TC level.



Statins; Chronic kidney disease; Cholesterol; Mortality