Lipid-Modifying Medications and Mortality in Patients on Chronic Peritoneal Dialysis

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Background: The prevalence of cardiovascular disease is much higher in patients with end-stage renal disease (ESRD) than in the general population. Few published studies in the ESRD population have examined the association of lipid-modifying medication therapy with mortality. The present study analyzes the association of lipid-modifying medications with the mortality of chronic peritoneal dialysis (PD) patients, regardless of the underlying cause of ESRD.

Methods: Data of 1,053 incident peritoneal dialysis patients from the United States Renal Data Systems prospective DMMS Wave 2 study were examined. Cox regression was used to evaluate the relationship between lipid medications and mortality.

Results: Overall, the hazard ratios of all-cause and cardiovascular (CV) mortality in patients on lipid-modifying medications were 0.74 ($p < 0.05$; 0.56-0.98) and 0.69 ($p < 0.05$; 0.48-0.97) respectively in the entire PD study population. Separate analysis of the diabetic subgroup revealed hazard ratios of 0.72 ($p = 0.065$; 0.51-1.02) for all-cause mortality, but 0.64 ($p < 0.05$; 0.41-0.99) for CV mortality. Additional results revealed that a total cholesterol level of <125 mg/dl had an elevated HR of 2.0 ($p < 0.001$, 1.35-2.98) for all-cause mortality in the entire study population and a HR of 2.4 ($p<0.05$; 1.22-4.69) in the non-diabetic subset.

Conclusion: Lipid-modifying medication therapy may be warranted in PD patients, as the present study has shown a reduced risk of CV mortality in both the diabetic and non-diabetic subgroups, as well as reduced all-cause mortality in the entire study population. Use of these medications should be cautioned in those PD patients with total cholesterol of <125 mg/dl, due to a significant increased risk for all-cause mortality. Prospective study is indicated in a population of PD patients in regards to the effects of lipid-modifying medications on mortality.