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**Statin Use and the Risks for Death and Hospitalization in Adults with Heart Failure**

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**Background:** Heart failure (HF) outcomes remain poor despite recent therapeutic advances. Statins decrease atherosclerotic events and may have beneficial effects in HF such as reducing inflammation and improving endothelial function. We examined whether statin therapy was associated with lower risks for adverse outcomes within a large HF population.

**Methods:** We identified adults with HF (1996-2002) within Kaiser Permanente of Northern California from ambulatory and hospital discharge databases. Time-dependent statin and other medication use was ascertained from pharmacy databases. Demographic and socioeconomic features, coexisting illnesses, renal function and hemoglobin levels were obtained from automated databases. Death and HF hospitalizations were identified from state death files and hospitalization databases. To address treatment selection bias, analyses were separately performed in patients without prior exposure to statins, and in the subset eligible for lipid-lowering therapy using ATP-III guidelines. Stratified analyses were performed in those with and without coronary disease (CHD). Cox proportional hazards models adjusted for propensity to receive statins, patient characteristics and other medication use.

**Results:** Among 59,772 HF patients, those receiving statins were more likely to be younger, male and have cardiovascular disease or risk factors but fewer coexisting illnesses. Statin therapy was associated with lower age-sex-adjusted rates (per 100 person-years) of death in the entire cohort (7.9 vs 16.8, P<0.001), those without prior statin use (7.5 vs 16.7, P<0.001), treatment-eligible patients without prior statin use (6.2 vs 13.1, P<0.001), and in those with and without known CHD (with CHD: 8.1 vs 18.6, P<0.001; without CHD: 7.6 vs 15.8, P<0.001). Similar patterns for HF hospitalization were observed. Among HF patients with or without known CHD, incident statin use was associated with lower adjusted risks of death (adjusted hazard ratio [HR] 0.43 [95% CI: 0.41 to 0.46] and HR 0.46 [0.43 to 0.50], respectively) and HF hospitalization (HR 0.73 [0.69-0.77] and HR 0.80 [0.74-0.85], respectively).

**Conclusions:** In a large HF population, statin therapy was independently associated with lower risks for adverse events in the presence or absence of known coronary disease. Given the proven benefit of statins in patients with CHD, randomized trials are needed to confirm whether they reduce the risk for adverse events in non-ischemic HF.