CARDIAC REHABILITATION REDUCES MORTALITY FOLLOWING CORONARY ARTERY BYPASS: A 10-YEAR COMMUNITY STUDY

ACC Oral Contributions
McCormick Place South, S401a
Sunday, March 25, 2012, 11:30 a.m.-11:45 a.m.

Session Title: Prevention: Cardiovascular Risk Assessment and Rehabilitation
Abstract Category: 8. Prevention: Rehabilitation
Presentation Number: 927-6

Authors: Quinn R. Pack, Kashish Goel, Brian Lahr, Kevin Greason, Ray Squires, Randal Thomas, Mayo Clinic, Rochester, MN, USA

Background: Cardiac Rehabilitation (CR) is a standard of care following coronary artery bypass grafting (CABG), but studies on the mortality effects of CR following CABG are surprisingly limited, particularly in a contemporary, mixed Medicare and non-Medicare population with individual patient level data.

Methods: We performed a single center, community based, retrospective all-cause mortality analysis on residents of Olmsted County, Minnesota who underwent CABG between 1996 and 2007. CR participation was defined as attending at least one CR session with exercise and was ascertained by chart review. Since CR attendance was not randomly allocated, we used propensity analysis to identify and control for potential confounders by evaluating more than 55 patient, clinical, procedural, and post-operative characteristics predictive of CR attendance. Known independent predictors of mortality (e.g., age, gender, renal failure, peripheral vascular disease, etc.) were further added to the model. Using Cox regression we assessed the effect of CR on long-term mortality, conditional on surviving at least 6 months after surgery.

Results: Eight hundred sixty nine patients underwent CABG surgery during the study period. Of these, 846 had follow-up >6 months after surgery (age 66 ± 11 years, 76% men) and 582 (69%) attended CR. Mean follow-up was 9 ± 4 years, during which there were 193 deaths. After adjustment for propensity score and independent mortality risk factors, CR attendance was associated with a significant 44% reduction in mortality during the follow up period (HR=0.56; 95% CI, 0.42-0.76; p<.001).

Conclusions: CR attendance is strongly and independently associated with a reduced rate of long term mortality in a community-based sample of Medicare and non-Medicare patients undergoing CABG. These results support the recently updated clinical practice guidelines for post-CABG management and show strong evidence that CR should remain a standard of care following CABG.