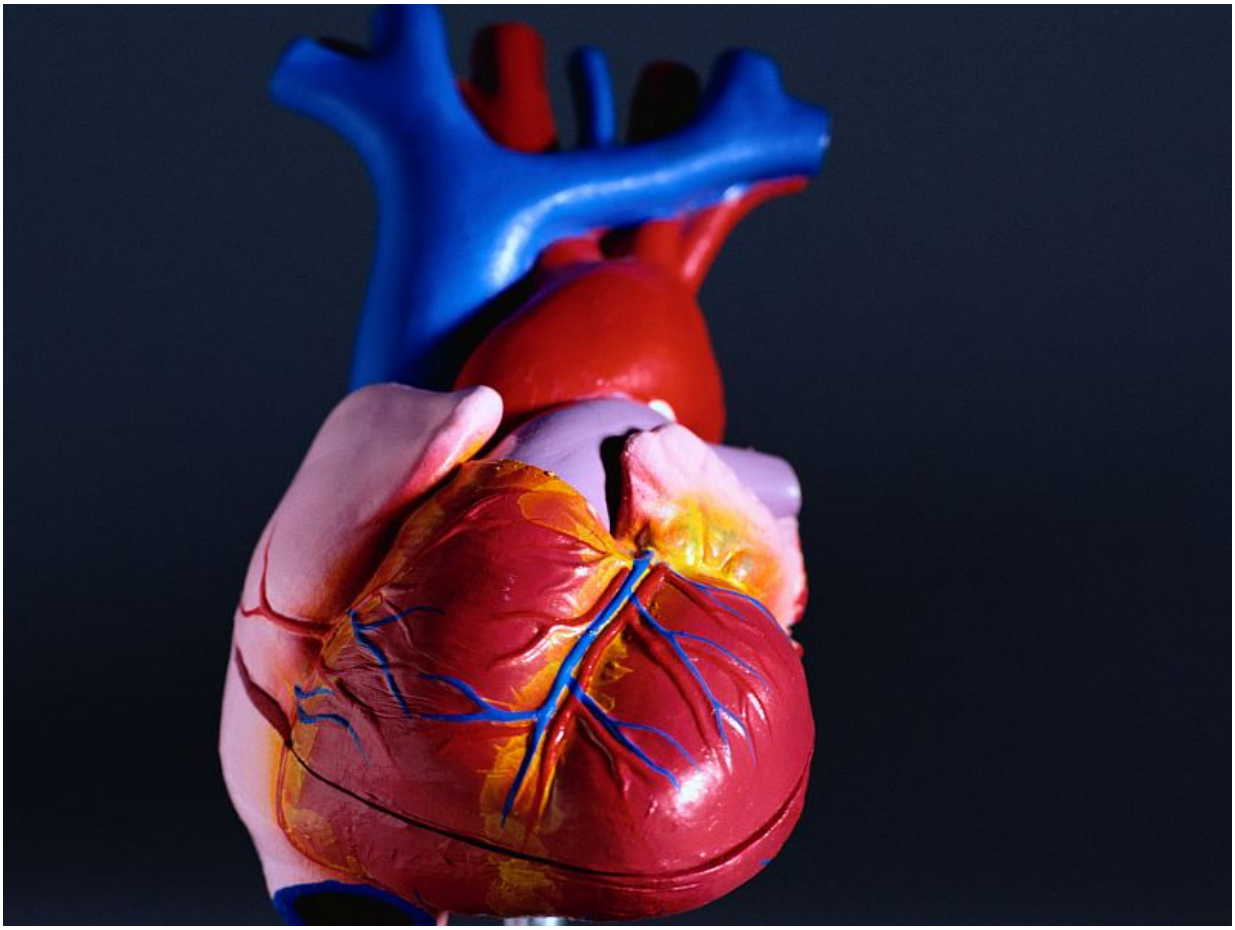
CPX testing predicts mortality in heart failure with reduced EF

February 17 2016



(HealthDay)—Variables measured during a cardiopulmonary exercise

(CPX) test can predict and discriminate mortality in patients with heart failure with reduced ejection fraction (HFrEF), according to a study published in the Feb. 23 issue of the *Journal of the American College of Cardiology*.

Steven J. Keteyian, Ph.D., from the Henry Ford Hospital in Detroit, and colleagues report on the strength of the association among variables measured during a CPX test and all-cause mortality in patients with HFrEF. Ten CPX test variables were measured at baseline among 2,100 patients enrolled in the Heart Failure-A Controlled Trial Investigating Outcomes of Exercise Training.

The researchers identified 357 deaths over a median follow-up of 32 months. With the exception of respiratory exchange ratio, all CPX variables correlated with all-cause mortality (P_2) and exercise duration were able to predict and discriminate mortality equally (c-index, 0.69). Among men and women, respectively, the strongest predictor of mortality was peak Vo_2 and exercise duration. Percent $ppVo_2$, exercise duration, and peak Vo_2 were similarly able to predict and discriminate mortality, in multivariable analyses. A 10 percent one-year mortality rate corresponded to peak Vo_2 of 10.9 $ml/kg^{-1}/min^{-1}$ in men versus 5.3 $ml/kg^{-1}/min^{-1}$ in women.

"Peak Vo_2, exercise duration, and percent $ppVo_2$ carried the strongest ability to predict and discriminate the likelihood of death in patients with HFrEF," the authors write. "The prognosis associated with a given peak Vo_2 differed by sex."

One author disclosed financial ties to Merck Research Laboratories.

More information: Full Text (subscription or payment may be required)
Editorial (subscription or payment may be required)