Arrhythmias and Clinical EP

THE INTERACTION OF THE CARDIOVASCULAR RISK FROM THE NEW ACC/AHA POOLED COHORT EQUATIONS RISK ESTIMATOR AND CARDIORESPIRATORY FITNESS: THE HENRY FORD EXERCISE TESTING PROJECT (THE FIT PROJECT)

Oral Contributions
Room 3
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Background: Cardiorespiratory fitness is an important marker of cardiovascular health in the general adult population. Whether it predicts outcomes irrespective of the baseline individual risk is not clear. We, thus, examined the association of exercise capacity, as measured by metabolic equivalents (METs), with all-cause mortality in strata of the new ACC/AHA Pooled Cohort Equations Risk Estimator (CVR).

Methods: We studied a retrospective cohort of 58,818 participants (53 ± 13 yrs, 51% men) without known heart failure or coronary disease who underwent treadmill stress testing between 1991 and 2009 at a single center, who were followed up for 22 years. The primary outcome was all-cause mortality. METs achieved were categorized as 12. The CVR was included in multivariable Cox models.

Results: The proportion of study participants with CVR values of 7.5% was 40%, 11% and 49% respectively. There were a total of 6,670 deaths (11.3%) during follow-up. The highest mortality was observed in those with CVR>7.5% and <6 METs (figure) whereas those with CVR7.5% and <6 METs had an adjusted hazard ratio of 33.8 compared to patients with CVR<5% and ≥12 METs. (p<0.001). Cardiorespiratory fitness improved the risk reclassification for all-cause mortality (net reclassification index 0.43, p<0.0001).

Conclusion: Our findings suggest that increases in exercise capacity is inversely associated with mortality independent of CVR.