EC7_4

Red Blood Cell Distribution Width and Risk of Cardiovascular Events and Mortality in a Large Community Cohort

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Background:
Red blood cell distribution width (RDW) has been shown to predict cardiovascular mortality in various populations, but studies were less conclusive regarding cardiovascular morbidity. We aimed at evaluating the prognostic effect of RDW on cardiovascular morbidity and all-cause mortality in the largest community cohort to date.

Methods:
We utilized data obtained from the computerized database of a large community based healthcare maintenance organization (HMO) to identify 319,218 eligible patients that performed a blood count during 2006. Patients were retrospectively followed to 2011 for major adverse cardiac events (MACE) and all-cause mortality.

Results:
A dose response relationship between RDW level and risk for total mortality after adjustment for potential confounders was found, starting at RDW value of 13%. For RDW>17%, the hazard ratio for all-cause mortality was 4.53 (95% CI: 3.25-6.31, P<0.001) compared to RDW values below 13%. RDW values above 13% were independently associated with increased risk of MACE in a dose response manner. For RDW>17%, the hazard ratio was 1.33 (95% CI: 1.09-1.64, p<0.001) for MACE.

Conclusion:
RDW level of 13% and above is positively associated with the risk of cardiovascular morbidity and all-cause mortality