Red Blood Cell Distribution Width and the Risk of Cardiovascular Morbidity and All-cause Mortality: A population-based study

Yaron Arbel, Raanan Raz, Dahlia Weitzman, Arie Steinvil MD, David Zeltser, Shlomo Berliner, Gabriel Chodick, Varda Shalev

Macabi Healthcare Services and Tel Aviv Medical Center
Conflict of Interest

- The authors don’t have any conflicts of interest to disclose
Red blood cell distribution width (RDW) has been shown to predict cardiovascular mortality in various populations, but studies were less conclusive regarding cardiovascular morbidity.
Aim

- We aimed at evaluating the prognostic effect of RDW on cardiovascular morbidity and all-cause mortality in the largest community cohort to date.
Methods

- Database of Macabi
- 254,473 eligible patients aged 40 or above that performed a blood count during 2006.
- Five Years of Follow Up
Results

- During a total of 1.4 million person-years, a total of 23,949 incident cases of MACE and 5,236 deaths were documented.

- In a multivariable model, a positive dose response relationship between RDW level and all caused mortality or MACE was found starting at values above 13%.
Compared to patients with a RDW of 13% or lower, patients with RDW>17% had a hazard ratio of 3.83 (95% CI: 3.12-4.69, P<0.001) for all-cause mortality and 1.22 (95% CI: 1.04-1.42, p=0.01) for MACE, after adjusting for multiple covariates.
All-Cause Mortality
Morbidity