

Aterotrombosi e Tromboembolismo arterioso: aspetti clinici

THE MOLI-SANI RISK SCORE, A MEASURE OF MODIFIABLE CARDIOVASCULAR RISK, PREDICTS NON-CARDIOVASCULAR MORTALITY AND SELECTED CANCERS, BUT NOT NEURODEGENERATIVE DISEASES

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Background and aims. The Moli-sani Risk Score (MRS) is a weighted score developed in the Moli-sani Study to quantify the overall burden of modifiable cardiovascular risk by combining 9 modifiable factors, including smoking, adherence to Mediterranean diet, blood lipids (triglycerides, LDL and HDL-cholesterol, blood pressure, glucose, adiposity and physical activity. Although originally developed for cardiovascular disease (CVD), it is unclear whether this measure of global modifiable CVD risk may also identify susceptibility to major non-CVD outcomes. We therefore examined the association of the MRS with mortality, hospitalization, cancer and neurodegenerative outcomes in then Moli-sani cohort.

Methods. We analyzed 16,621 men and women aged ≥45 years from the adult general population-based Moli-sani Study. Median follow-up ranged from 12 to 15 years across outcomes. Outcomes included all-cause, CVD, cancer and other-cause mortality; all-cause hospitalization; CVD, coronary heart disease (CHD), stroke and diabetes; breast, colorectal, lung, prostate and renal cancer; Alzheimer's disease, non-Alzheimer dementia and Parkinson's disease. Participants with the corresponding condition at baseline were excluded from each specific analysis. Competing risks were handled within outcome macro-areas by censoring at the first competing event in the same domain, and cause-specific Cox models were used. For interpretability, the MRS was originally rescaled so that 1 MRS point corresponds approximately to the cardiovascular risk associated with 1 additional year of age. Hazard ratios (HRs) and 95% confidence intervals (CIs) were estimated for a 5-point increase in MRS, that is, for an increment slightly smaller than 1 SD in our analytic sample.

Results. As shown in the Figure, higher MRS was associated with all-cause mortality (HR 1.18; 95%CI 1.14–1.21; Figure), cancer mortality (1.18; 1.13–1.24), other-cause mortality (1.12; 1.06–1.19), and all-cause hospitalization (1.06; 1.04–1.07). Among site-specific cancers, associations emerged for lung cancer (1.42; 1.28–1.57) and renal cancer (1.20; 1.02–1.41), but not for breast (1.03; 0.93–1.15), colorectal (1.02; 0.94–1.11) or prostate cancer (1.00; 0.92–1.08). No association was observed with neurodegenerative disorders, including Alzheimer's disease, non-Alzheimer dementia and Parkinson's disease (Figure). As expected for a score designed to capture global modifiable cardiovascular risk, MRS was also associated with CVD mortality (1.23; 1.17–1.29), CVD incidence (1.39; 1.33–1.44), CHD (1.48; 1.41–1.55), stroke (1.17; 1.08–1.27), and type 2 diabetes (1.57; 1.51–1.62). Sex-stratified analyses showed broadly similar findings in men and women.

Conclusions. In this large general-population cohort, the MRS, a score of modifiable factors contributing to cardiovascular risk, was associated not only with cardiovascular outcomes, but also with non-CVD mortality, all-cause hospitalization and selected cancers. By contrast, no association emerged with neurodegenerative diseases. These findings suggest that the MRS captures a broader modifiable risk profile extending beyond CVD, although not across all non-CVD clinical outcomes.

