

## Figures legends

**Figure 1. Cardiometabolic biomarkers according to SCORE2/SCORE2-OP risk classes.** Box plots show median (second quartile), first and third quartile. Tukey whiskers reach 1.5 times the interquartile distance or the highest or lowest point, whichever is shorter. Any data beyond the whiskers are shown as black dots. Comparisons were performed using ANOVA method. (\* $p < 0.05$ ; \*\*  $p < 0.01$ ). (a) Box plots of waist circumference according to SCORE2/SCORE2-OP risk classes; (b) Box plots of total cholesterol according to SCORE2/SCORE2-OP risk classes; (c) Box plots of HDL-c according to SCORE2/SCORE2-OP risk classes; (d) Box plots of LDL-c according to SCORE2/SCORE2-OP risk classes. <sup>a</sup> indicates significance vs Low-risk group; <sup>b</sup> indicates significance vs Moderate-risk group; <sup>c</sup> indicates significance vs High-risk group; <sup>d</sup> indicates significance vs Very-high risk group. Abbreviations: Waist Circumference, WC; Total cholesterol, TC; High-density lipoprotein cholesterol, HDL-c; Low-density lipoprotein cholesterol, LDL-c.

## **Figure 2. MACEs distribution during follow-up time in our study cohort.**

The median time to MACEs development during the follow-up period, estimated using the Kaplan–Meier method, was 84.9 months.

**Figure 3. Association of CVE and cardiometabolic conditions.** Odds Ratios for patients with specific cardiometabolic risk factors are represented. Contingency tables, OR value and 95% C.I. are reported. Fisher’s Exact test was calculated and  $p < 0.05$  was considered significant. Abbreviations: Odds Ratio, OR; Confidence Interval, CI; High Density Lipoprotein-cholesterol, HDL-c; Body Mass Index, BMI.

**Figure 4. Comparison of waist circumference and lipid profile in individuals without abdominal obesity, based on CVE development.** Box plots show median (second quartile), first and third quartile. Tukey whiskers reach 1.5 times the interquartile distance or the highest or lowest point, whichever is shorter. Any data beyond the whiskers are shown as black dots. Comparisons were performed using Students’ t-test. (\*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ). (a) Box plots of waist circumference according to MACE development; (b) Box plots of total cholesterol according to

MACE development; (c) Box plots of HDL-c according to MACE development; (d) Box plots of LDL-c according to MACE development. Abbreviations: Major adverse cardiovascular events, MACE; Waist circumference, WC; Total cholesterol, TC; High-density lipoprotein cholesterol, HDL-c; Low-density lipoprotein cholesterol, LDL-c.

### **Supplementary Figure 1. Comparison between SCORE2 and 10-years Framingham Risk Score Adjusted for Lipids**

For each of the two risk scores are shown the considered variables, the risk classes, each one with its meaning. The Framingham Risk Calculator gives an estimate of patients Heart/Vascular Age, can calculate via Cox Models the Normal CVR, calculates the optimal cardiovascular risk and the individual (real) risk. There's no different calculator for apparently healthy and comorbid patients. The SCORE2/OP calculator only gives an estimate of risk for a MACE to occur in 10 years. Abbreviations: Cardiovascular Disease, CVD; Atherosclerotic Cardiovascular Disease, ASCVD; Trans Thoracic, TT; Acute coronary Syndrome, ACS; Chronic Kidney Disease, CKD; GFR, glomerular filtration rate; GLS, global longitudinal strain; GP, general practitioner; LVMI, left ventricular mass index. <sup>a</sup> Persons without established ASCVD, diabetes mellitus, CKD, Familial Hypercholesterolemia.