Table, Supplemental Digital Content 1: Demographics and clinical variables for the DanRisk population (N=1039).

|  |  |  |
| --- | --- | --- |
| Variable | Subgroup | Descriptive statistics\* |
| Age |  | 59.4 (49.4-61.1) |
| Sex | Female | 561 (54.0%) |
|  | Male | 478 (46.0%) |
| Hypertension | None | 524 (51.5%) |
|  | Newly diagnosed | 282 (27.8%) |
|  | Known | 210 (20.7%) |
| Hypercholesterolemia | No | 230 (22.1%) |
|  | Yes | 809 (77.9%) |
| Smoking | Never | 432 (41.6%) |
|  | Active | 253 (24.3%) |
|  | Former | 354 (34.1%) |
| Uric acid (mmol/L) |  | 0.309 (0.079) |
|  | 1% percentile | 0.142 |
|  | 5% percentile | 0.193 |
|  | 10% percentile | 0.214 |
|  | 25% percentile | 0.252 |
|  | 50% percentile | 0.303 |
|  | 75% percentile | 0.359 |
|  | 90% percentile | 0.415 |
|  | 95% percentile | 0.447 |
|  | 99% percentile | 0.519 |
| Agatston score |  | 0 (0-4473) |
|  | 0 | 562 (54.1%) |
|  | 1-9 | 134 (12.9%) |
|  | 10-99 | 182 (17.5%) |
|  | 100-399 | 103 (9.9%) |
|  | 400+ | 58 (5.6%) |

\*Values shown are frequency (percent) for categorical variables as well as mean (standard deviation) and median (range: minimum-maximum) for continuous variables med symmetrical and skewed distributions, respectively.

Figure, Supplemental Digital Content 2

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Table, Supplemental Digital Content 3: Bonferroni-adjusted multiple comparison tests between CAC classes from one-way analysis-of-variance on Uric acid (mmol/L; dependent variable) in the DanRisk population. Values shown are row mean minus column mean (p-value).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Agatston score (U) | | | |
|  | 0 | 1-9 | 10-99 | 100-399 |
| 1-9 | 0.020 (0.07) |  |  |  |
| 10-99 | 0.033 (<0.0001) | 0.013 (1) |  |  |
| 100-399 | 0.047 (<0.0001) | 0.027 (0.08) | 0.014 (1) |  |
| 400+ | 0.049 (<0.0001) | 0.029 (0.16) | 0.017 (1) | 0.002 (1) |

Table, Supplemental Digital Content 4: Limited added value of Uric acid (mmol/l) on top of usual risk factors for calcification of the heart in the DanRisk population (dependent variable: CAC classes 0, 1-9, 10-99, 100-399, 400+; analysis: ordinal logistic regression; number of observations: N=1016)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | Subgroup | Model 1: usual risk factors | | | Model 2: usual risk factors plus Uric acid (mmol/l) | | |
| OR | 95% CI for OR | P-value | OR | 95% CI for OR | P-value |
| Age |  | 1.10 | 1.07-1.13 | <0.0001 | 1.10 | 1.07-1.13 | <0.0001 |
| Sex | Female (reference) |  |  |  |  |  |  |
|  | Male | 3.44 | 2.66-4.44 | <0.0001 | 2.97 | 2.19-4.02 | <0.0001 |
| Hypertension | No (reference) |  |  |  |  |  |  |
|  | Newly diagnosed | 1.37 | 1.03-1.84 | 0.03 | 1.36 | 1.01-1.82 | 0.04 |
|  | Known | 2.22 | 1.60-3.07 | <0.0001 | 2.08 | 1.49-2.90 | <0.0001 |
| Hypercholesterolemia | No (reference) |  |  |  |  |  |  |
|  | Yes | 1.45 | 1.04-2.03 | 0.03 | 1.43 | 1.02-2.0 | 0.04 |
| Smoking | Never (reference) |  |  |  |  |  |  |
|  | Active | 2.16 | 1.58-2.95 | <0.0001 | 2.20 | 1.61-3.02 | <0.0001 |
|  | Former | 1.08 | 0.80-1.44 | 0.62 | 1.07 | 0.80-1.44 | 0.64 |
| Uric acid (mmol/l)\* |  |  |  |  | 1.19 | 0.98-1.44 | 0.08 |

OR: odds ratio. CI: confidence interval.

Likelihood ratio test for the comparison of models 1 and 2: p=0.08.

\*The odds ratio and respective 95% CI are shown for a change of 0.1 mmol/l for Uric acid (in opposition to the usual interpretation of changes of 1 unit in continuous independent variables).

Table, Supplemental Digital Content 5: Limited added value of Uric acid (mmol/l) on top of usual risk factors for calcification of the heart in the DanRisk population (dependent variable: CAC as count process, resulting in discrete, non-negative data (0,1,2,…); analysis: zero-inflated negative binomial regression; number of observations: N=1016; number of zero-observations: N=557)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | Subgroup | Model 1: usual risk factors | | | Model 2: usual risk factors plus Uric acid (mmol/l) | | |
| IRR | 95% CI for IRR | P-value | IRR | 95% CI for IRR | P-value |
| Age |  | 1.15 | 1.11-1.19 | <0.0001 | 1.15 | 1.10-1.19 | <0.0001 |
| Sex | Female (reference) |  |  |  |  |  |  |
|  | Male | 1.69 | 1.16-2.48 | 0.007 | 1.69 | 1.15-2.48 | 0.007 |
| Hypertension | No (reference) |  |  |  |  |  |  |
|  | Newly diagnosed | 1.21 | 0.80-1.83 | 0.36 | 1.21 | 0.80-1.83 | 0.36 |
|  | Known | 2.49 | 1.58-3.93 | <0.0001 | 2.49 | 1.57-3.94 | <0.0001 |
| Hypercholesterolemia | No (reference) |  |  |  |  |  |  |
|  | Yes | 0.74 | 0.45-1.21 | 0.23 | 0.74 | 0.45-1.22 | 0.24 |
| Smoking | Never (reference) |  |  |  |  |  |  |
|  | Active | 1.44 | 0.93-2.22 | 0.10 | 1.44 | 0.93-2.24 | 0.10 |
|  | Former | 1.29 | 0.84-1.96 | 0.24 | 1.29 | 0.84-1.97 | 0.24 |
| Uric acid (mmol/l)\* |  |  |  |  | 1.007 | 0.82-1.23 | 0.95 |

IRR: incidence rate ratio. CI: confidence interval. Coef.: coefficient.

Likelihood ratio test for the comparison of models 1 and 2: p=0.95. Likelihood ratio tests comparing the applied zero-inflated negative binomial model with the zero-inflated Poisson model (model 1: p<0.0001, model 2: p<0.0001) as well as Vuong’s test comparing the applied zero-inflated negative binomial model with the negative binomial model (model 1: p=0.0012, model 2: p=0.0015) were also performed.

\*The incidence rate ratio and respective 95% CI are shown for a change of 0.1 mmol/l for Uric acid (in opposition to the usual interpretation of changes of 1 unit in continuous independent variables).

Table, Supplemental Digital Content 6: Bonferroni-adjusted multiple comparison tests between heart disease groups from one-way analysis-of-variance on Uric acid (mmol/L; dependent variable) in the DEF-AMI study. Values shown are row mean minus column mean (p-value).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Non-elevated TnI | Type 1 MI | Type 2 MI | Ischemic myocardial injury | Non-ischemic myocardial injury |
| Type 1 MI | -0.008  (0.99) |  |  |  |  |
| Type 2 MI | 0.053  (0.037) | 0.061  (0.013) |  |  |  |
| Ischemic myocardial injury | 0.063  (<0.0001) | 0.071  (<0.0001) | 0.010  (0.99) |  |  |
| Non-ischemic myocardial injury | -0.008  (0.99) | 0.001  (0.99) | -0.061  (0.08) | -0.071  (0.002) |  |
| Systemic myocardial injury | -0.013  (0.99) | -0.005  (0.99) | -0.067  (0.02) | -0.076  (<0.0001) | -0.006  (0.99) |

MI: myocardial infarction. TnI: Troponin I.