

Supplementary data

To the paper: “Asymptomatic hyperuricemia associates with cardiometabolic risk indicators in overweight/obese but not in lean adolescents”

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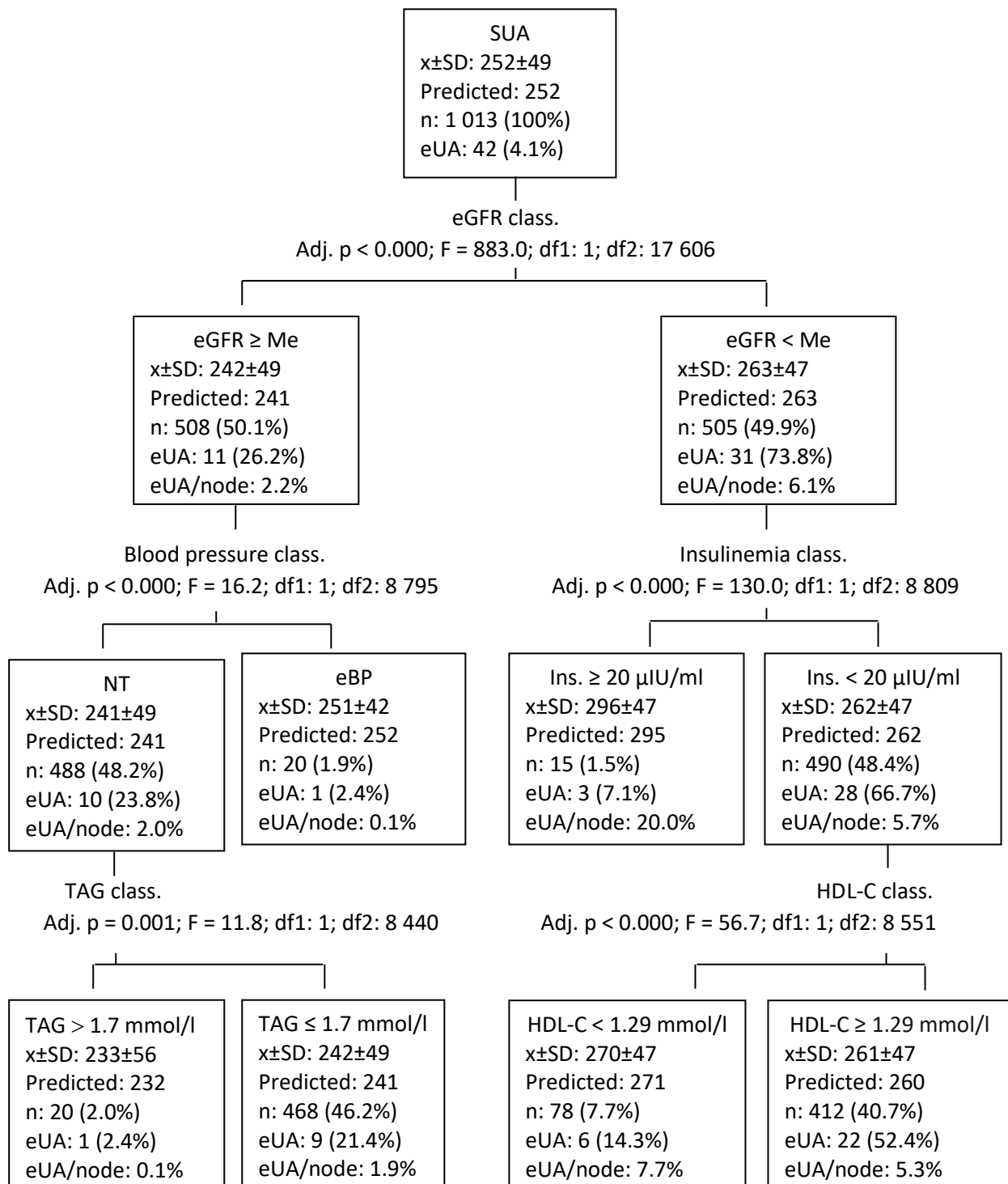
Slovakia

Supplementary Table S1: Cohort characteristics, between-sex comparison

	All	Males	Females	P
N	2 424	1 165	1 259	
Age, years	17.4±1.0	17.3±1.0	17.4±1.0	0.084
Uric acid, μmol/L	304±74	354±60	258±51	<0.001
SBP, mm Hg	115±13	122±12	107±9	<0.001
DBP, mm Hg	71±8	73±8	70±7	<0.001
Height, cm	172.1±9.3	179.0±6.8	165.7±6.2	<0.001
Weight, kg	66.8±13.9	73.9±13.8	60.2±10.3	<0.001
Waist, cm	75.3±9.2	79.3±9.0	71.6±7.8	<0.001
Body mass index, kg/m ²	22.4±3.7	23.0±3.8	21.9±3.4	<0.001
Waist/height	0.44±0.05	0.44±0.05	0.43±0.05	<0.001
Glycemia, mmol/L	4.8±0.4	4.9±0.4	4.7±0.4	<0.001
Insulinemia, μIU/mL	9.7 (5.9, 15.9)	9.5 (5.7, 16.0)	9.9 (6.2, 15.8)	0.048
HOMA-IR	2.06 (1.22, 3.49)	2.08 (1.20, 3.62)	2.05 (1.25, 3.37)	0.530
Cholesterol, mmol/L	4.03±0.76	3.81±0.70	4.24±0.75	<0.001
HDL-C, mmol/L	1.38±0.30	1.24±0.22	1.51±0.30	<0.001
LDL-C, mmol/L	2.25±0.60	2.17±0.59	2.32±0.60	<0.001
Triacylglycerols, mmol/L	0.80 (0.53, 1.21)	0.79 (0.51, 1.22)	0.81 (0.54, 1.21)	0.209
Atherogenic index	-0.23±0.22	-0.19±0.23	-0.26±0.20	<0.001
eGFR, mL/s/1.73m ²	1.78±0.23	1.73±0.22	1.83±0.23	<0.001
CRP, mg/L	0.5 (0.1, 1.6)	0.4 (0.1, 1.5)	0.5 (0.1, 1.8)	0.004
Leukocytes, 10 ⁹ /L	6.6±1.6	6.3±1.4	6.9±1.8	<0.001
Cont. CM score	2.82±0.91	2.86±0.96	2.78±0.86	0.020
Cont. CM score without waist/height	1.94±0.86	1.98±0.91	1.92±0.82	0.064
Prevalence				
Elevated:				
- SBP, n (%)	314 (13.0)	295 (25.3)	19 (1.5)	<0.001
- DBP, n (%)	129 (5.3)	77 (6.6)	52 (4.1)	0.008
- BP, n (%)	372 (15.3)	312 (26.8)	60 (4.8)	<0.001
- waist/height, n (%)	269 (11.1)	149 (12.7)	120 (9.5)	0.012
- Glycemia, n (%)	100 (4.1)	76 (6.5)	24 (1.9)	<0.001
- insulinemia, n (%)	167 (6.9)	93 (8.0)	74 (5.9)	0.045
- TAG, n (%)	120 (4.9)	62 (5.3)	58 (4.6)	0.454
- AIP, n (%)	144 (5.9)	100 (8.6)	44 (3.5)	<0.001
- uric acid, n (%)	224 (9.2)	156 (13.2)	68 (5.4)	<0.001
- CRP, n (%)	212 (8.7)	82 (7.0)	130 (10.3)	0.005
Low HDL-C, n (%)	463 (19.1)	169 (14.5)	294 (23.4)	<0.001
General overweight/obesity, n (%)	532 (21.9)	310 (26.6)	222 (17.6)	<0.001
Central obesity and general overweight/obesity, n (%)	234 (9.7)	140 (12.0)	96 (7.6)	<0.001
Metabolic syndrome, n (%)	60 (2.5)	45 (3.8)	15 (1.2)	<0.001

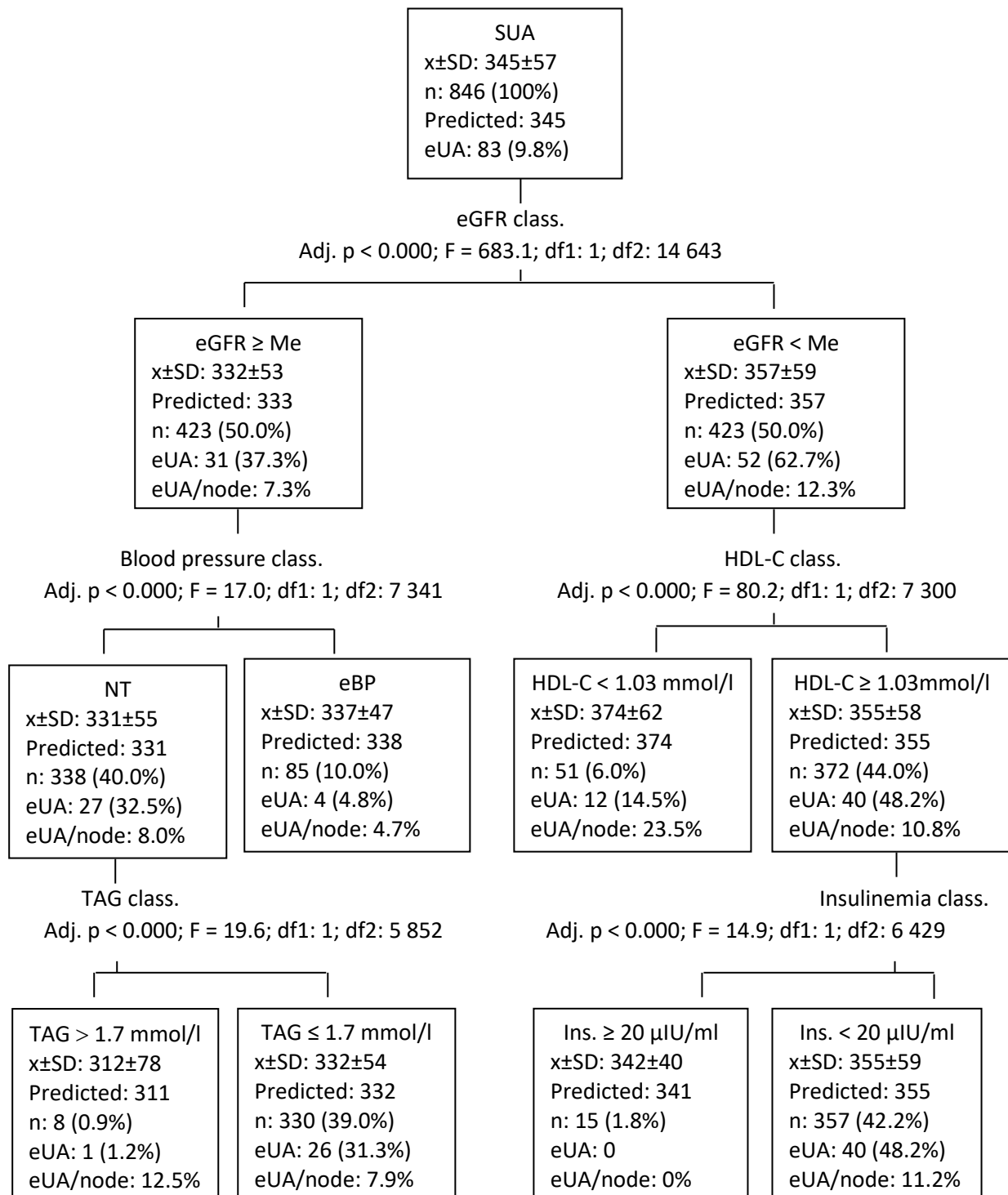
HOMA-IR – homeostasis model assessment for insulin resistance, HDL-C – high density lipoprotein cholesterol, LDL-C – low density lipoprotein cholesterol, CRP – C-reactive protein, Cont. CM – continuous cardiometabolic score. Data are presented as mean±SD (normally distributed data, geometric mean (-1SD, +1SD) of back-transformed log data (data not fitting to normal distribution were logarithmically transformed prior analysis), or as counts (percentage). Continuous variables were compared using a two-sided Student's test, two-sided Fisher's exact test was used to compare categorical variables. Significant p (< 0.05) is highlighted in bold.

Supplementary Figure S1: Classification tree: lean females



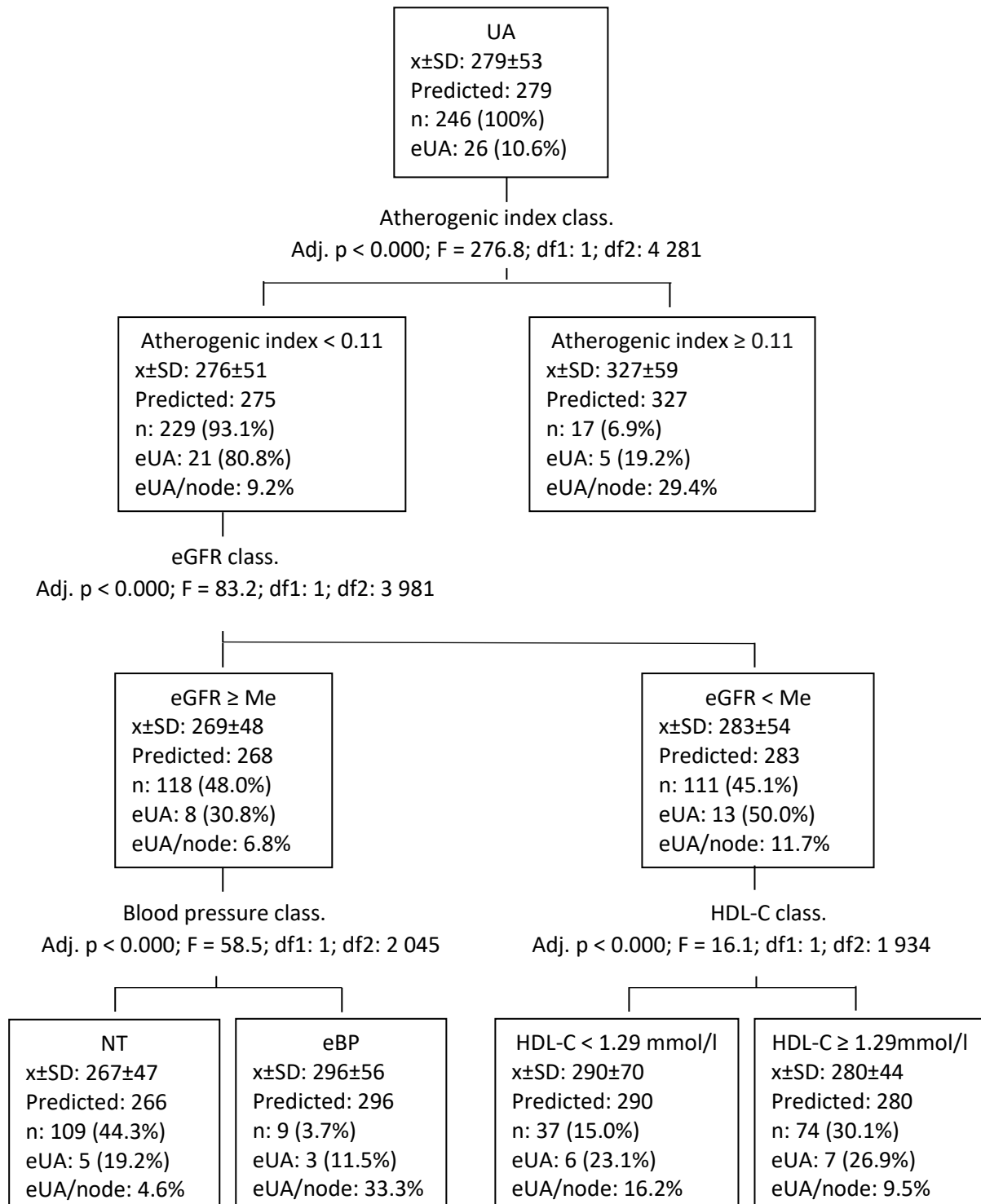
SUA: serum uric acid concentration; x±SD: mean SUA ± standard deviation in node; n: number of subjects in node (percentage of all subjects); predicted: SUA concentration predicted by the model; eUA: number of subjects with elevated SUA, e.g. ≥ 340 µmol/l (percentage of all subjects with eUA); eUA/node: prevalence of subjects with SUA in a particular node; eGFR: estimated glomerular filtration rate; Me: median = 1.81 mL/s/1.73m²; class.: classification; Adj.: adjusted; Me: median; NT: normotension (systolic BP < 130 mmHg and diastolic BP < 85 mmHg); eBP: elevated BP (systolic BP ≥ 130 mmHg and/or diastolic BP ≥ 85 mmHg); Ins: fasting plasma insulin; TAG: triacylglycerols; HDL-C: high-density lipoprotein cholesterol

Supplementary Figure S2: Decision tree: lean males



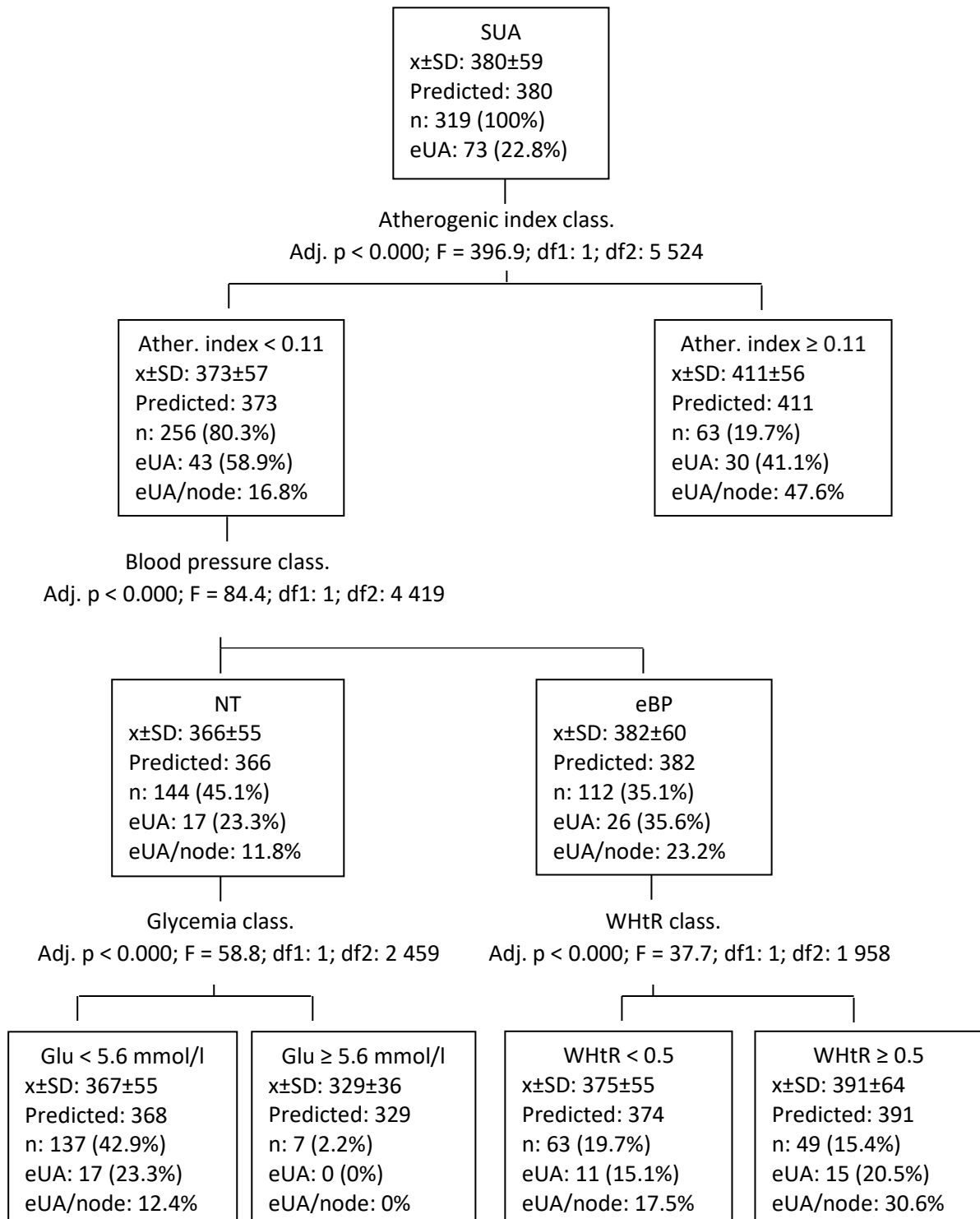
SUA: serum uric acid concentration; x±SD: mean SUA ± standard deviation in node; n: number of subjects in node (percentage of all subjects); predicted: SUA concentration predicted by the model; eUA: number of subjects with elevated SUA, e.g. ≥ 420 µmol/l (percentage of all subjects with eUA); eUA/node: prevalence of subjects with SUA in a particular node; eGFR: estimated glomerular filtration rate; Me: median = 1.71 mL/s/1.73m²; class.: classification; Adj.: adjusted; Me: median; NT: normotension (systolic BP < 130 mmHg and diastolic BP < 85 mmHg); eBP: elevated blood pressure (systolic BP ≥ 130 mmHg and/or diastolic BP ≥ 85 mmHg); HDL-C: high-density lipoprotein cholesterol; Ins.: fasting plasma insulin; TAG: triacylglycerols

Supplementary Figure S3: Decision tree: overweight/obese females



SUA: serum uric acid concentration; $x \pm SD$: mean SUA \pm standard deviation in node; n: number of subjects in node (percentage of all subjects); predicted: SUA concentration predicted by the model; eUA: number of subjects with elevated SUA, e.g. $\geq 340 \mu\text{mol/l}$ (percentage of all subjects with eUA); eUA/node: prevalence of subjects with SUA in a particular node; class.: classification; Adj.: adjusted; NT: normotension (systolic BP < 130 mmHg and diastolic BP < 85 mmHg); eBP: elevated BP (systolic BP ≥ 130 mmHg and/or diastolic BP ≥ 85 mmHg); eGFR: estimated glomerular filtration rate; eGFR Me: median = 1.81 mL/s/1.73m²

Supplementary Figure S4: Decision tree: overweight/obese males



SUA: serum uric acid concentration; x±SD: mean SUA ± standard deviation in node; n: number of subjects in node (percentage of all subjects); predicted: SUA concentration predicted by the model; eUA: number of subjects with elevated SUA, e.g. ≥ 420 μmol/l (percentage of all subjects with eUA); eUA/node: prevalence of subjects with SUA in a particular node; Ather.: atherogenic index of plasma; class.: classification; Adj.: adjusted; NT: normotension (systolic BP < 130 mmHg and diastolic BP < 85 mmHg); eBP: elevated blood pressure (systolic BP ≥ 130 mmHg and/or diastolic BP ≥ 85 mmHg); Glu: fasting plasma glucose; WHtR: waist-to-height ratio