

Supplemental Tables

Supplemental Table 1. Risk scores for cardiovascular hospitalization in patients with type 2 diabetes based on common risk factors [see Yu et al (1) for details on the multivariate model].

| <i>Risk factor</i> | <i>Beta Coefficient</i> |
|--|-------------------------|
| Constant | -3.80246 |
| Sex (men = 1; women = 0) | 0.2289 |
| Age \geq 70 years (1 = yes; 0 = no) | 0.8159 |
| HbA1c \geq 7.4% (1 = yes; 0 = no) | -0.0397 |
| (BMI/10) ⁻² | - 1.8538 |
| (BMI/10) ^{0.5} | + 0.9606 |
| (Systolic BP/100) ² | -0.4030 |
| (Systolic BP/100) ² * Ln(systolic BP/100) | 0.9662 |
| (Diastolic BP/100) ² | 0.474 |
| (Diastolic BP/100) ² * Ln(diastolic BP/100) | 0.2724 |
| Ln(total cholesterol/10) | 0.5147 |
| (Total cholesterol/10) ^{0.5} | -1.0580 |
| Ln(HDL-C) | 0.0734 |
| (HDL-C/10) ³ | -0.0238 |
| (LDL-C/10) ^{0.5} | -0.5563 |
| ln(LDL-C/10)*(LDL-C/10) ^{0.5} | -0.8316 |

The risk for cardiovascular hospitalization = $1 / (1 + e^{-\text{risk score}})$.

Plasma concentrations of lipids were entered in SI (mmol/L) units.

BMI, body mass index; BP, blood pressure; HbA1c, glycated hemoglobin; HDL-C, high density lipoprotein cholesterol; LDL-C, low density lipoprotein cholesterol.

Supplemental Table 2. Traditional risk factors in the healthy subjects compared to the patients with type 2 diabetes.

| | All patients N = 122 | Control subjects N = 34 | p |
|--------------------------|-------------------------|----------------------------|--------|
| Men, n (%) | 60 (50%) | 24 (29%) | 0.033 |
| Age, years | 69.9 (9.1) | 49 (9) | <0.001 |
| BMI, kg/m ² | 29.8 (4.1) | 25.1 (4.2) | <0.001 |
| Systolic BP, mmHg | 138 (15) | 124 (13) | <0.001 |
| Diastolic BP, mmHg | 82 (7) | 80 (7) | 0.254 |
| Cystatin-C, µg/ml | 1.03 (0.46) | 0.35 (1.03) | <0.001 |
| CRP, µg/ml | 5.7 (12.5) | 2.2 (4.6) | 0.120 |
| sVCAM-1, ng/ml | 531 (236) | 411 (138) | 0.005 |
| Total cholesterol, mg/dl | 197 (37) | 222 (34) | 0.001 |
| HDL-C, mg/dl | 49 (14) | 65 (19) | <0.001 |
| LDL-C, mg/dl | 125 (34) | 142 (28) | 0.009 |
| Triglycerides, mg/dl | 155 (81) | 95 (37) | <0.001 |
| Framingham risk scores | 35.2 (11.7) | 7.9 (5.5) | <0.001 |
| PROCAM score | 60.3 (11.4) | 28.4 (10.4) | <0.001 |

Data are mean (SD).

P values are according to ANOVA test (log transformed values).

BMI, body mass index; BP, blood pressure; CRP, C-reactive protein; HDL-C, high density lipoprotein cholesterol; LDL-C, low density lipoprotein cholesterol; sVCAM-1, soluble vascular cell adhesion molecule 1.

Supplemental Table 3. Correlations of PAr and 4-pyridoxic acid/pyridoxine ratio with single risk factors (only continuous variables) in 122 patients with type 2 diabetes.

| Variable | PAr index | 4-Pyridoxic acid/pyridoxine ratio |
|------------------------------|-------------------|--|
| Age | 0.191 (p = 0.035) | 0.212 (p = 0.021) |
| Creatinine | 0.187 (p = 0.040) | NS |
| Cystatin -C | 0.215 (p = 0.017) | NS |
| CRP | 0.285 (p = 0.001) | 0.151 (p = 0.101) |
| Risk score from Yu et al (1) | 0.173 (p = 0.057) | 0.299 (p = 0.001) |
| PROCAM score | NS | 0.193 (p = 0.035) |
| sVCAM-1 | NS | 0.383 (p < 0.001) |

The correlation coefficients are according to Spearman test. Only significant correlations or those with a trend are shown. PAr index = 4-pyridoxic acid/ (pyridoxal + pyridoxal-5`phosphate) ratio. No correlations were observed between PAr or 4-Pyridoxic acid/pyridoxine ratio and other risk factors such as systolic and diastolic blood pressure or blood lipids.

Supplemental Table 4. Plasma vitamin B6 forms in healthy controls (n = 34) compared to patients with diabetes and low vascular risk (n=61)

| <i>Vitamin B6 forms</i> | Patients with diabetes and low risk | | p |
|-----------------------------------|-------------------------------------|----------------------------|--------|
| | N=61 | Control subjects N = 34 | |
| 4-Pyridoxic acid, nmol/L | 31.9 (15.0) | 29.7 (40.6) | 0.649 |
| Pyridoxine, nmol/L | 38.1 (127.8) | 13.6 (5.4) | 0.462 |
| Pyridoxal, nmol/L | 13.9 (5.7) | 25.0 (18.0) | <0.001 |
| Pyridoxal-5` phosphate, nmol/L | 29.3 (16.2) | 55.9 (72.3) | 0.007 |
| Pyridoxamine, nmol/L | 1.8 (1.0) | 3.2 (13.9) | 0.476 |
| Pyridoxamine phosphate, nmol/L | 10.0 (5.1) | 5.5 (11.5) | 0.010 |
| 4-Pyridoxic acid/pyridoxine ratio | 3.9 (3.2) | 2.2 (2.5) | 0.009 |
| PAr index | 0.84 (0.06) | 0.37 (0.12) | <0.001 |

Data are mean (SD).

P values are according to ANOVA test (log transformed values).

PAr index = 4-pyridoxic acid/ (pyridoxal + pyridoxal-5` phosphate) ratio.

Reference

1. Yu D, Cai Y, Graffy J, Holman D, Zhao Z, Simmons D. Development and external validation of risk scores for cardiovascular hospitalisation and rehospitalisation in diabetes patients. *J Clin Endocrinol Metab* 2018; 103:1122-9.