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Data Article

Dataset of the associations of aldosterone to renin ratio with MR-proANP and MR-proADM

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ABSTRACT

This article contains data related to the research article entitled "Altered relation of the renin-aldosterone system and vasoactive peptides in type 2 diabetes: the KORA F4 study" (Then et al., 2016) [1] and describes the association of the aldosterone to renin ratio with midregional-pro atrial natriuretic peptide (MR-proANP) and midregional-pro adrenomedullin (MR-proADM) in 1261 participants from the KORA F4 cohort.

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Specifications Table

Subject area	*Diabetes*
More specific subject area	*Cardiovascular disease in diabetes*
Type of data	*Tables*
How data was acquired	*Cohort study*
Data format	*Analyzed*
Experimental factors	*Plasma samples were obtained from 1261 participants of the population-based KORA F4 cohort after an overnight fast.*
Experimental features	*Plasma MR-proANP, MR-proADM, renin and aldosterone were measured. Linear regression models were used to assess the association between MR-proANP/MR-proADM and aldosterone-renin-ratio.*
Data source location	*Cooperative Health Research in the Region of Augsburg, Southern Germany*
Data accessibility	*The data is with this article*

Value of the data

- The aldosterone to renin ratio was only associated with MR-proANP and MR-proADM in subjects without diabetes or prediabetes.
- The current data may be helpful for the planning of further clinical and/or preclinical research aiming to work out the differences in vasoactive hormones in subjects with and without diabetes.
- Vasoactive prohormones, including MR-proANP and MR-proADM, are interesting candidates for future research focusing on the pathophysiological links between diabetes and cardiovascular disease.

1. Data

Two Tables are presented showing the associations of vasoactive prohormones with the aldosterone to renin ratio (ARR) in subjects with and without diabetes type 2 or prediabetes in a population-based cohort. Table 1 displays the association of the ARR with MR-proANP and Table 2 shows the relation of ARR and MR-proADM.

2. Experimental design, materials and methods

Recruitment of study participants, laboratory measurements and statistical analyses are described in detail elsewhere [1]. Briefly, the population-based KORA (Cooperative Health Research in the Region of Augsburg, southern Germany) F4 cohort includes 3080 participants recruited between 2006 and 2008. From this cohort, a sample of 1596 subjects was randomly selected for plasma MR-proANP and MR-proADM measurements. All variables required for the currently described analyses were available in 1261 study participants. ARR was calculated by dividing plasma aldosterone levels (ng/l) by plasma renin levels (ng/l).

Table 1
Association of ARR (logarithmized) and MR-proANP (linear regression). Bold: $p < 0.05$.

	MR-proANP Q4 vs Q1-Q3 Regression coefficient (95% CI)	***p-value***	**MR-proANP Q4 vs Q1 Regression coefficient (95% CI)**	***p-value***	**MR-proANP metric Regression coefficient (95% CI)**	***p-value***
No adjustment						
All subjects	0.030 (−0.119 to 0.179)	0.694	**0.214 (0.020–0.408)**	**0.031**	0.00071 (−0.00047 to 0.00189)	0.237
Prediabetes	0.299 (−0.081 to 0.679)	0.123	0.143 (−0.31–0.597)	0.532	0.00284 (−0.00008 to 0.00575)	0.056
Diabetes	−0.344 (−0.88 to 0.192)	0.206	−0.494 (−1.193 to 0.204)	0.163	−0.00222 (−0.00578 to 0.00134)	0.219
No diabetes/ prediabetes	0.163 (−0.005 to 0.331)	0.057	**0.407 (0.184–0.629)**	**< 0.001**	0.00131 (−0.00009 to 0.00271)	0.066
Adjusted for age and sex						
All subjects	0.039 (−0.134 to 0.211)	0.661	0.289 (−0.014 to 0.593)	0.062	0.00076 (−0.00059 to 0.00211)	0.267
Prediabetes	0.322 (−0.099 to 0.744)	0.133	−0.111 (−0.754 to 0.532)	0.732	0.00317 (−0.00013 to 0.00648)	0.060
Diabetes	−0.425 (−1.015 to 0.164)	0.156	−0.589 (−1.445 to 0.266)	0.173	−0.00274 (−0.00669 to 0.00121)	0.173
No diabetes/ prediabetes	0.111 (−0.088 to 0.309)	0.274	**0.477 (0.133–0.821)**	**0.007**	0.00057 (−0.00103 to 0.00218)	0.484
Adjusted for age, sex and BMI						
All subjects	0.025 (−0.146 to 0.197)	0.771	0.2851 (−0.012 to 0.582)	0.060	0.00066 (−0.00068 to 0.00200)	0.336
Prediabetes	0.301 (−0.120 to 0.722)	0.160	−0.144 (−0.790 to 0.502)	0.660	0.00288 (−0.00044 to 0.00619)	0.090
Diabetes	−0.423 (−1.022 to 0.177)	0.165	−0.504 (−1.416 to 0.408)	0.273	−0.00271 (−0.0067 to 0.00128)	0.182
No diabetes/ prediabetes	0.098 (−0.100 to 0.296)	0.332	**0.444 (0.106–0.781)**	**0.010**	0.00057 (−0.00103 to 0.00217)	0.488
Multivariable adjustment[a]						
All subjects	**0.178 (0.003–0.354)**	**0.046**	**0.375 (0.068–0.681)**	**0.017**	**0.00230 (0.00088–0.00372)**	**0.002**
Prediabetes	**0.528 (0.110–0.946)**	**0.013**	0.035 (−0.686–0.756)	0.924	**0.00661 (0.00316–0.01006)**	**< 0.001**
Diabetes	−0.104 (−0.775 to 0.567)	0.759	−0.152 (−1.319–1.014)	0.794	0.00032 (−0.00422 to 0.00486)	0.890
No diabetes/ prediabetes	0.196 (−0.011 to 0.403)	0.063	**0.532 (0.180–0.884)**	**0.003**	0.00142 (−0.0003 to 0.00313)	0.106

[a] Adjustment for age, sex, BMI, hypertension (yes/no), HDL cholesterol (continuous), LDL cholesterol (continuous), triglycerides (continuous), former myocardial infarction or stroke, smoking behaviour (active/former/never), alcohol consumption (never/moderate/high), physical activity (high/low), hsCRP, eGFR, statins, NSAID, beta-blockers, angiotensin converting enzyme inhibitors and angiotensin 1 receptor antagonists.

Table 2
Association of ARR (logarithmized) and MR-proADM (linear regression). Bold: $p < 0.05$.

	MR-proADM Q4 vs Q1-Q3 Regression coefficient (95% CI)	***p-value***	**MR-proADM Q4 vs Q1 Regression coefficient (95% CI)**	***p-value***	**MR-proADM metric Regression coefficient (95% CI)**	***p-value***
No adjustment						
All subjects	**−0.221 (−0.369 to −0.074)**	**0.003**	−0.115 (−0.330 to 0.101)	0.297	**−0.818 (−1.196 to −0.440)**	**< 0.001**
Prediabetes	0.036 (−0.366 to 0.437)	0.861	−0.094 (−0.548 to 0.36)	0.682	−0.438 (−1.566 to 0.689)	0.444
Diabetes	−0.409 (−0.894 to −0.077)	0.098	−0.344 (−1.091 to 0.403)	0.361	−1.086 (−2.197 to 0.026)	0.055
No diabetes/ prediabetes	−0.116 (−0.312 to 0.081)	0.248	0.026 (−0.216 to 0.269)	0.831	**−0.512 (−0.986 to −0.039)**	**0.034**
Adjusted for age and sex						
All subjects	**−0.326 (−0.492 to −0.159)**	**< 0.001**	−0.173 (−0.513 to 0.166)	0.316	**−1.213 (−1.659 to −0.768)**	**< 0.001**
Prediabetes	−0.037 (−0.458 to 0.384)	0.862	−0.250 (−0.786 to 0.285)	0.355	−0.954 (−2.220 to 0.312)	0.139
Diabetes	−0.469 (−0.981 to 0.043)	0.072	−0.413 (−1.296 to 0.470)	0.353	**−1.366 (−2.593 to −0.138)**	**0.029**
No diabetes/ prediabetes	**−0.268 (−0.481 to −0.056)**	**0.013**	−0.168 (−0.541 to 0.205)	0.377	**−0.961 (−1.501 to −0.421)**	**< 0.001**
Adjusted for age, sex and BMI						
All subjects	**−0.239 (−0.412 to −0.066)**	**0.007**	0.024 (−0.351 to 0.399)	0.900	**−0.979 (−1.453 to −0.504)**	**< 0.001**
Prediabetes	0.02 (−0.404 to 0.443)	0.927	−0.137 (−0.694 to 0.419)	0.625	−0.737 (−2.034 to 0.561)	0.264
Diabetes	−0.509 (−1.06 to 0.041)	0.070	−0.368 (−1.383 to 0.646)	0.471	**−1.459 (−2.759 to −0.159)**	**0.028**
No diabetes/ prediabetes	−0.196 (−0.416 to 0.024)	0.080	0.020 (−0.392 to 0.432)	0.923	**−0.759 (−1.337 to −0.182)**	**0.010**
Multivariable adjustment[a]						
All subjects	−0.070 (−0.252 to 0.113)	0.455	0.189 (−0.204 to 0.582)	0.344	−0.526 (−1.061 to 0.010)	0.054
Prediabetes	0.176 (−0.263 to 0.615)	0.431	0.010 (−0.656 to 0.675)	0.977	0.573 (−0.925 to 2.071)	0.451
Diabetes	−0.173 (−0.800 to 0.453)	0.585	0.032 (−1.160 to 1.225)	0.957	−0.527 (−2.132 to 1.077)	0.516
No diabetes/ prediabetes	−0.118 (−0.352 to 0.115)	0.319	0.030 (−0.414 to 0.475)	0.894	**−0.660 (−1.309 to −0.011)**	**0.046**

[a] Adjustment for age, sex, BMI, hypertension (yes/no), HDL cholesterol (continuous), LDL cholesterol (continuous), triglycerides (continuous), former myocardial infarction or stroke, smoking behaviour (active/former/never), alcohol consumption (never/moderate/high), physical activity (high/low), hsCRP, eGFR, statins, NSAID, beta-blockers, angiotensin converting enzyme inhibitors and angiotensin 1 receptor antagonists.

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Transparency document. Supplementary material

Transparency data associated with this article can be found in the online version at http://dx.doi.org/10.1016/j.dib.2016.08.008.

Reference

[1] C. Then, M. Rottenkolber, A. Lechner, C. Meisinger, M. Heier, W. Koenig, A. Peters, W. Rathmann, M. Bidlingmaier, M. Reincke, J. Seissler, Alterations of the renin-aldosterone system in type 2 diabetes: the KORA F4 study, Atherosclerosis (2016), http://dx.doi.org/10.1016/j.atherosclerosis.2016.07.905.