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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	<i>Diabetes</i>
More specific subject area	<i>Cardiovascular disease in diabetes</i>
Type of data	<i>Tables</i>
How data was acquired	<i>Cohort study</i>
Data format	<i>Analyzed</i>
Experimental factors	<i>Plasma samples were obtained from 1261 participants of the population-based KORA F4 cohort after an overnight fast.</i>
Experimental features	<i>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.</i>
Data source location	<i>Cooperative Health Research in the Region of Augsburg, Southern Germany</i>
Data accessibility	<i>The data is with this article</i>

## 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:  $p < 0.05$ .

	<b>MR-proANP Q4 vs Q1-Q3 Regression coefficient (95% CI)</b>	<b>p- value</b>	<b>MR-proANP Q4 vs Q1 Regression coefficient (95% CI)</b>	<b>p-value</b>	<b>MR-proANP metric Regression coefficient (95% CI)</b>	<b>p-value</b>
<b>No adjustment</b>						
All subjects	0.030 (−0.119 to 0.179)	0.694	<b>0.214 (0.020–0.408)</b>	<b>0.031</b>	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	<b>0.407 (0.184–0.629)</b>	<b>&lt; 0.001</b>	0.00131 (−0.00009 to 0.00271)	0.066
<b>Adjusted for age and sex</b>						
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	<b>0.477 (0.133–0.821)</b>	<b>0.007</b>	0.00057 (−0.00103 to 0.00218)	0.484
<b>Adjusted for age, sex and BMI</b>						
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	<b>0.444 (0.106–0.781)</b>	<b>0.010</b>	0.00057 (−0.00103 to 0.00217)	0.488
<b>Multivariable adjustment<sup>a</sup></b>						
All subjects	<b>0.178 (0.003–0.354)</b>	<b>0.046</b>	<b>0.375 (0.068–0.681)</b>	<b>0.017</b>	<b>0.00230 (0.00088–0.00372)</b>	<b>0.002</b>
Prediabetes	<b>0.528 (0.110–0.946)</b>	<b>0.013</b>	0.035 (−0.686–0.756)	0.924	<b>0.00661 (0.00316–0.01006)</b>	<b>&lt; 0.001</b>
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	<b>0.532 (0.180–0.884)</b>	<b>0.003</b>	0.00142 (−0.0003 to 0.00313)	0.106

<sup>a</sup> 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)	<i>p</i> -value	MR-proADM Q4 vs Q1 Regression coefficient (95% CI)	<i>p</i> - value	MR-proADM metric Regression coefficient (95% CI)	<i>p</i> -value
<b>No adjustment</b>						
All subjects	<b>-0.221 (-0.369 to -0.074)</b>	<b>0.003</b>	-0.115 (-0.330 to 0.101)	0.297	<b>-0.818 (-1.196 to -0.440)</b>	<b>&lt; 0.001</b>
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	<b>-0.512 (-0.986 to -0.039)</b>	<b>0.034</b>
<b>Adjusted for age and sex</b>						
All subjects	<b>-0.326 (-0.492 to -0.159)</b>	<b>&lt; 0.001</b>	-0.173 (-0.513 to 0.166)	0.316	<b>-1.213 (-1.659 to -0.768)</b>	<b>&lt; 0.001</b>
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	<b>-1.366 (-2.593 to -0.138)</b>	<b>0.029</b>
No diabetes/ prediabetes	<b>-0.268 (-0.481 to -0.056)</b>	<b>0.013</b>	-0.168 (-0.541 to 0.205)	0.377	<b>-0.961 (-1.501 to -0.421)</b>	<b>&lt; 0.001</b>
<b>Adjusted for age, sex and BMI</b>						
All subjects	<b>-0.239 (-0.412 to -0.066)</b>	<b>0.007</b>	0.024 (-0.351 to 0.399)	0.900	<b>-0.979 (-1.453 to -0.504)</b>	<b>&lt; 0.001</b>
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	<b>-1.459 (-2.759 to -0.159)</b>	<b>0.028</b>
No diabetes/ prediabetes	-0.196 (-0.416 to 0.024)	0.080	0.020 (-0.392 to 0.432)	0.923	<b>-0.759 (-1.337 to -0.182)</b>	<b>0.010</b>
<b>Multivariable adjustment<sup>a</sup></b>						
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	<b>-0.660 (-1.309 to -0.011)</b>	<b>0.046</b>

<sup>a</sup> 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>.