***Low serum calcium is associated with higher long-term mortality in myocardial infarction patients from a population-based registry***

Timo Schmitz1,2, Christian Thilo3, Jakob Linseisen2,4, Margit Heier5,6, Annette Peters6,7, Bernhard Kuch8, Christa Meisinger2,4

1 MONIKA/KORA Myocardial Infarction Registry, University Hospital of Augsburg; 2Chair of Epidemiology, LMU München at UNIKA-T Augsburg; 3University Hospital of Augsburg, Department of Cardiology; 4 IRG Clinical Epidemiology, Helmholtz Zentrum München; 5University Hospital of Augsburg, KORA Study Centre, 6Institute of Epidemiology, Helmholtz Zentrum München; 7German Center for Diabetes Research (DZD) Neuherberg Germany, 8Department of Internal Medicine, Hospital Nördlingen, Germany

Correspondence to: Timo Schmitz, t.schmitz@unika-t.de

***Supplementary material***

**Table 1: COX-Regression models for the association between calcium groups and long-term mortality for one time period including an unadjusted model, a model adjusted for sex and age and a fully adjusted model.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | ***Unadjusted model*** | ***Adjusted for sex and age*** | ***Fully adjusted model***\* |
|  | ***HR*** ***(95% CI)*** | ***p Value*** | ***HR*** ***(95% CI)*** | ***p Value*** | ***HR*** ***(95% CI)*** | ***p Value*** |
| ***Calcium low*** | 1.6 (1.3 - 2.0) | < 0.001 | 1.6 (1.3 - 2.0) | < 0.001 | 1.5(1.2 - 1.9) | 0.0012 |
| ***Calcium normal-low*** | 1.1(0.9 - 1.4) | 0.494 | 1.07(0.8 - 1.3) | 0.594 | 1.2(0.9 - 1.5) | 0.201 |
| ***Calcium normal-high*** | 1 (Ref) | - | 1 (Ref) | - | 1 (Ref) | - |
| ***Calcium high*** | 1.1(0.8 - 1.3) | 0.688 | 1.13 (0.9 -1.4) | 0.326 | 1..1(0.9 - 1.4) | 0.524 |

\*adjusted for age, sex, renal function (eGFR), diabetes, hypertension, smoking status, hyperlipidemia, chest pain symptoms, STEMI/NSTEMI, any in-hospital complication, any intervention (PCI, bypass, lysis therapy), diuretics before AMI, calcium channels blockers before AMI, diuretics at discharge, calcium channels blockers at discharge, all four evidence-based medications (EBMs)

**Table 2: COX-Regression models for the association between continuous total serum calcium levels and long-term mortality for the two time periods and the whole time period.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | ***28 -2500 day*** | ***> 2500 days*** | ***one time period*** |
|  | ***HR*** ***(95% CI)*** | ***p Value*** | ***HR*** ***(95% CI)*** | ***p Value*** | ***HR*** ***(95% CI)*** | ***p Value*** |
| ***Unadjusted model*** |
| *Calcium continuous*  | 0.93(0.86 - 0.99) | 0.0345 | 1.02(0.93 - 1.13) | 0.6436 | 0.95 (0.90 - 1.01) | 0.0922 |
| ***Adjusted for sex and age*** |
| *Calcium continuous* | 0.93(0.87 - 0.99) | 0.0377 | 1.02 (0.92 - 1.12) | 0.7280 | 0.95280.90 - 1.01) | 0.0896 |
| ***Fully adjusted model***\* |
| *Calcium continuous* | 0.92(0.86 - 0.99) | 0.022625 | 1.03(0.93 - 1.14) | 0.561903 | 0.95(0.90 - 1.00) | 0.069865 |

\*adjusted for age, sex, renal function (eGFR), diabetes, hypertension, smoking status, hyperlipidemia, chest pain symptoms, STEMI/NSTEMI, any in-hospital complication, any intervention (PCI, bypass, lysis therapy), diuretics before AMI, calcium channels blockers before AMI, diuretics at discharge, calcium channels blockers at discharge, all four evidence-based medications (EBMs)