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Half the elderly have stable eGFR

A longitudinal study based on cystatin C and creatinine

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Objectives

We aimed to explore the effect of aging and sex on plasma cystatin C and creatinine levels in the older segment of the general population. In addition we wanted to look at the rate of change in eGFR.

Methods

2931 participants aged 60-93 years (1338 60-69 year olds, 539 70-80 year olds, 716 80-90 year olds and 222 90+) attended the baseline examination in the Good Aging in Skåne cohort (GÅS) and were followed for up to 9 years.

Mixed regression model was used to account for the longitudinal structure of the data and adjusted for full interactions between sex and age.

The deterioration rate was estimated among the 1873 participants with at least two laboratory measurements by calculating the ratio between change in eGFR (CKD-EPI) and the time between the first and last visit. Thus, the time interval varied from 3-9 years.

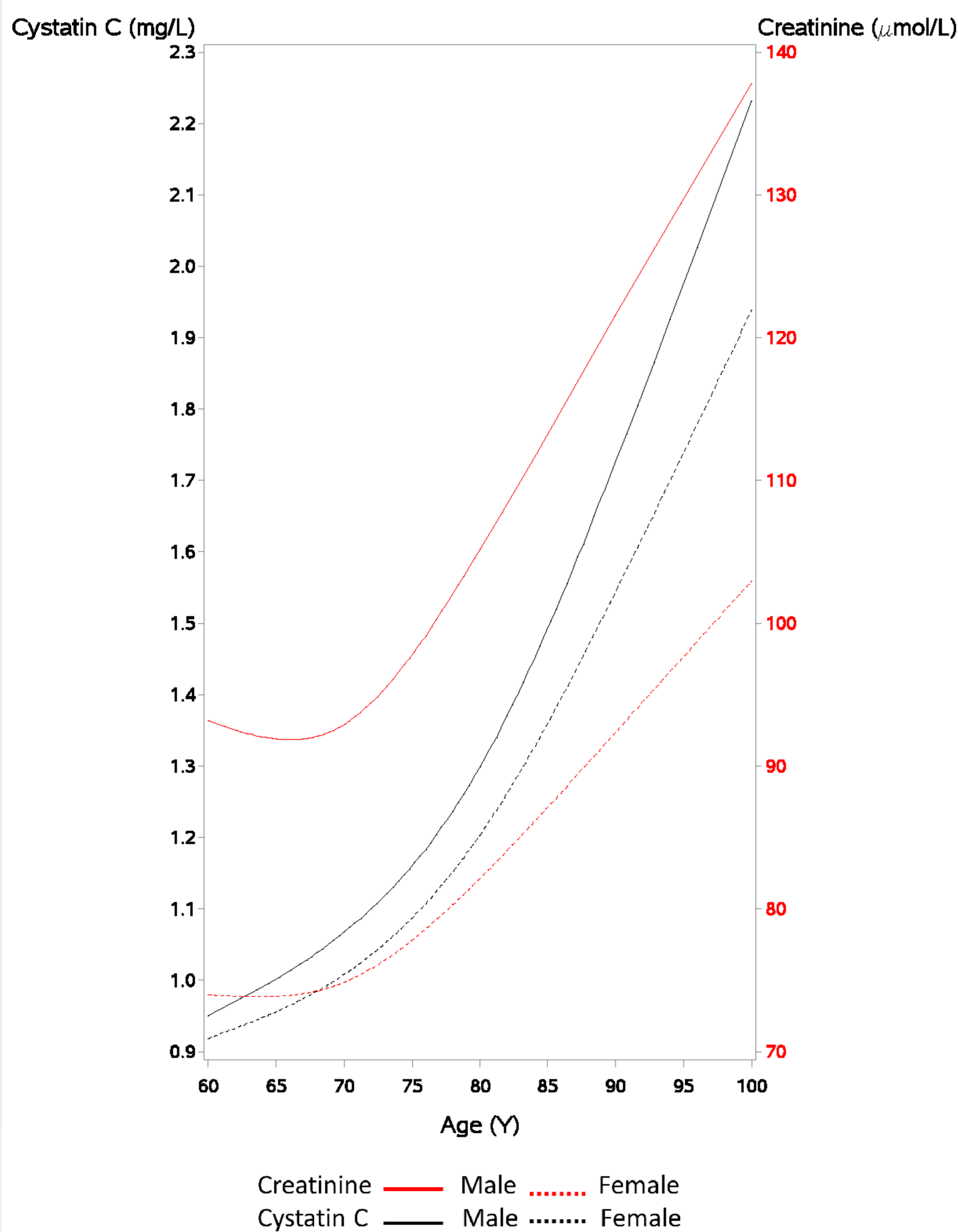


Results

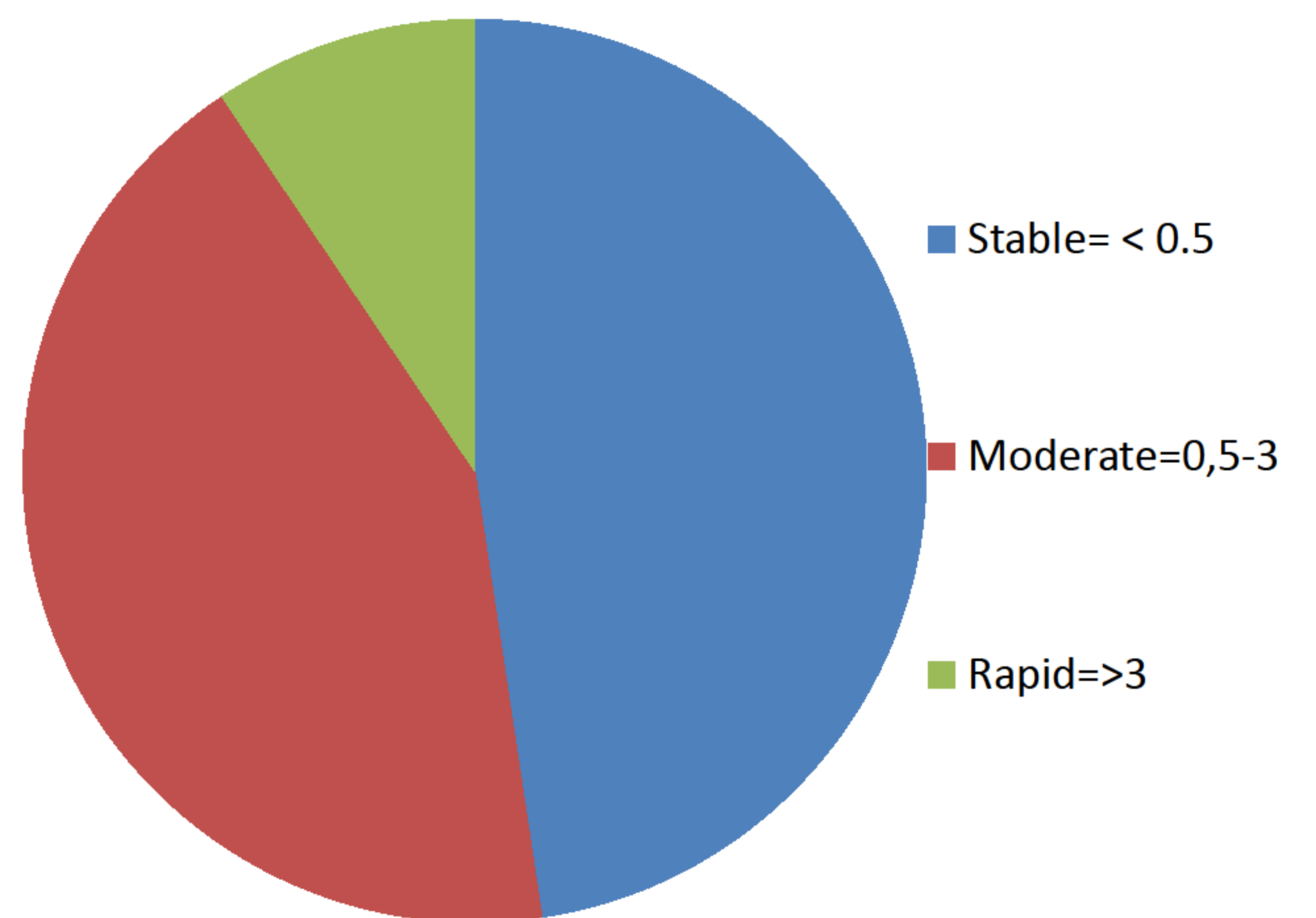
From the mixed regression model an average annual decline in eGFR (confidence interval) was extrapolated: 1.15 mL/min per 1.73m² per year (1.07, 1.23) for women and 1.31 mL/min per 1.73m² per year (1.21, 1.41) for men.

On an individual basis the proportion of women and men respectively for each level of decline (mL/min per 1.73m² per year): Stable (<0,5) 51%, 43%; Moderate decline (0,5 to 3) 39%, 47%; Rapid decline (>3) 9%, 10%.

Cystatin C/Creatinine vs Age in the GÅS cohort



Rate of decline in eGFR (CKD-EPI) in mL/min per 1,73 m2 per year



Conclusions

- There was a doubling of cystatin C-levels between the age of 60 and 100 on a group level for both sexes
- Men had higher cystatin C levels than women
- The extrapolated reduction in eGFR was about 60 % over the course of 40 years
- Half of the participants showed a stable eGFR (<0,5 mL/min per 1.73m² per year)
- One tenth showed a rapidly decreasing eGFR mL/min per 1.73m² per year)

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