

CHRONIC KIDNEY DISEASE PROGRESSION IN CORONARY ARTERY DISEASE PATIENTS

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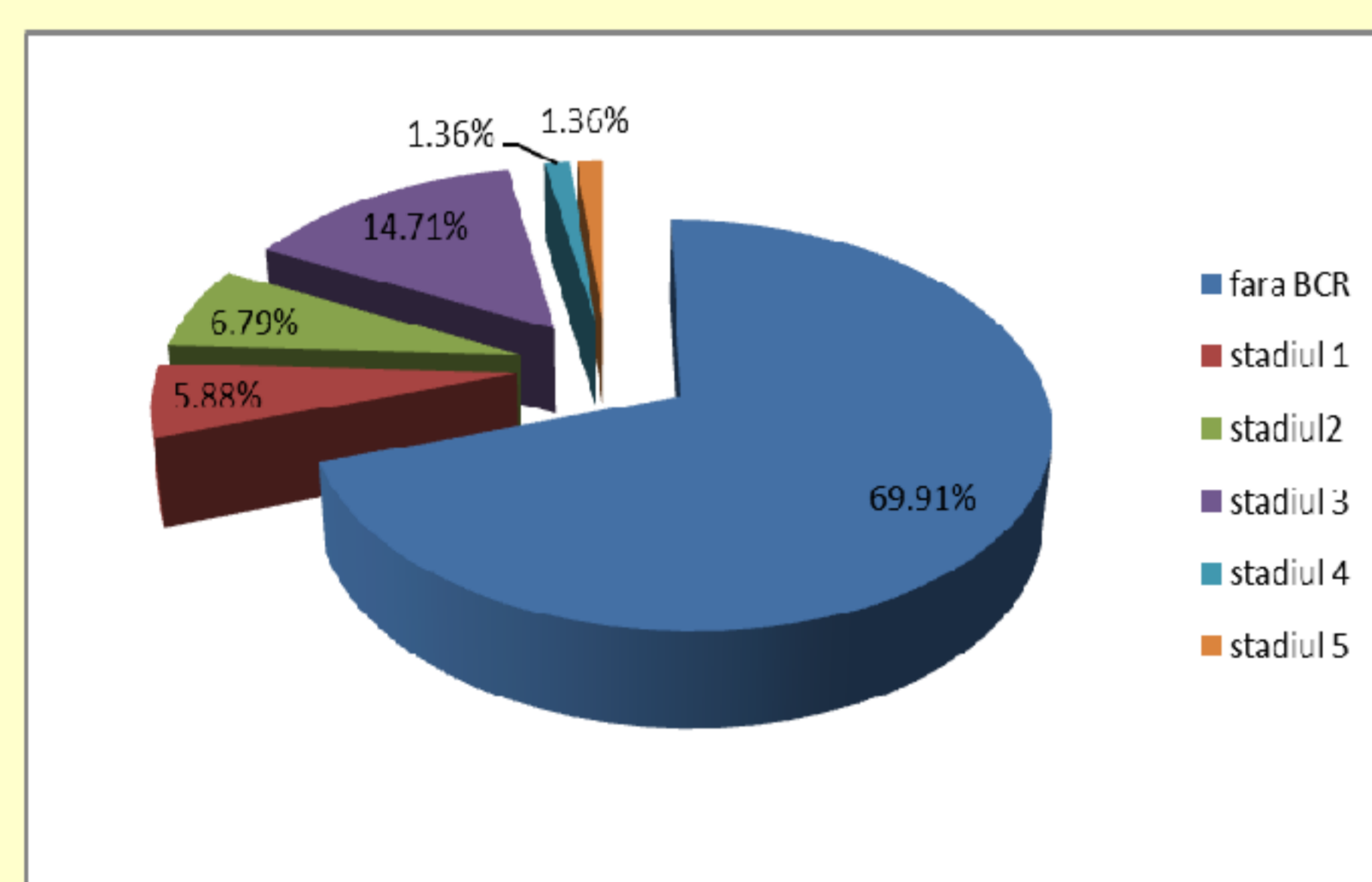
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Objectives:

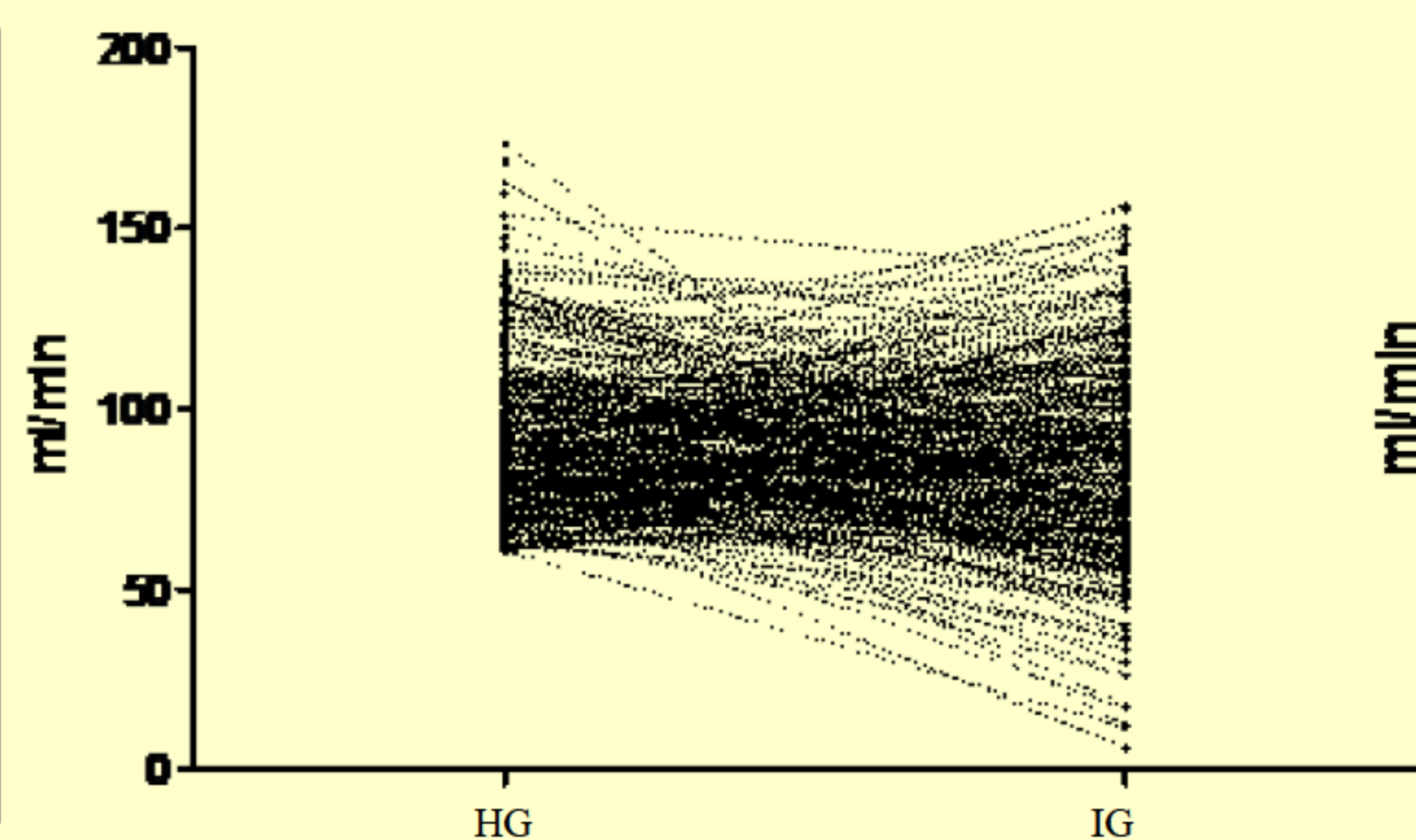
To assess renal function and the progression of the chronic kidney disease (CKD) in a population of coronary artery disease (CAD) patients one year after an acute event

Methods:

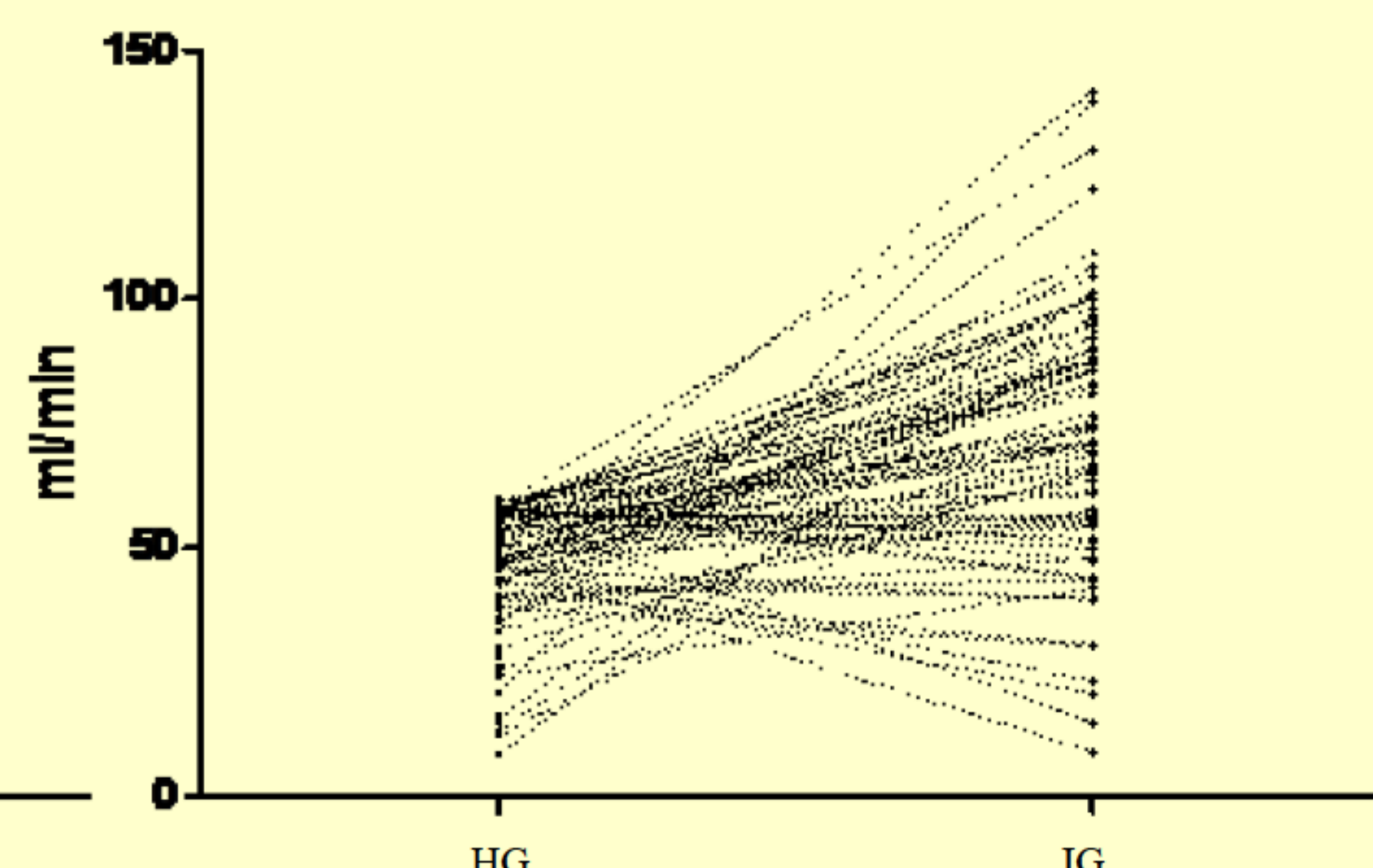
- epidemiological cross sectional study
- Study group: all the consecutive patients admitted with acute coronary syndrome in two tertiary interventional cardiological unit between April 2009 and January 2012, and treated either by coronary artery by-pass graft (CABG) or percutaneous transluminal coronary angioplasty (PTCA).
- Data about the renal function (only eGFR, no albuminuria was assessed during hospitalisation) and cardiovascular risk factors were collected from the medical records.
- One year after the acute event all the subjects were invited for an interview and for lab tests to assess the renal function (e-GFR, albuminuria using HemoCue Urine Albumin system), diabetes mellitus screening (oral glucose tolerance test using HemoCue Glucose 201+ system) and other cardiovascular risk factors.
- The statistical analysis of the data were performed using SPSS v.17 software.



Prevalence of CKD and CKD stages in IG



Evolution of GFR in pts with initial GFR ≥ 60 , after 1 yr



Evolution of GFR in pts with initial GFR < 60 , after 1 yr

Results:

695 patients (HG, hospital group) were identified retrospectively from the hospital files and enrolled in the study and 508 of them (IG, interview group) participated to the interview and lab tests which took place one year after the acute coronary event. Those HG patients whose GFR was more than $60 \text{ ml/min/1.73m}^2$ suffered a significant loss of renal function one year later (92 ± 20.9 vs. $85 \pm 26.6 \text{ ml/min/1.73m}^2$, $p < 0.0001$). HG patients with $\text{GFR} < 60 \text{ ml/min/1.73m}^2$ significantly recovered renal function as depicted from the measurements at the interview (47.3 ± 11.6 vs. $73.7 \pm 26.8 \text{ ml/min/1.73m}^2$, $p < 0.0001$). One year after the acute event 79 (22,12%) new cases of DM were diagnosed and among them 29 (36,7%) with CKD stage 1-5. We found no significant correlation between eGFR and traditional risk factors (hypertension, hypercholesterolemia, smoking, obesity) at the time of the acute coronary event. IC patients diagnosed with CKD stage 3-5 used to have a significantly higher GFR one year before (mean GFR: 45 ± 14.3 vs. $76.7 \pm 24.8 \text{ ml/min/1.73m}^2$). We found a positive correlation between albuminuria and systolic BP ($r^2 = 0.11$) and a negative correlation between eGFR and DM ($r^2 = 0.14$). One year mortality was not influenced by the presence of CKD in HC (3.5% vs. 4.8%, $p = 0.514$).

Conclusions:

The prevalence of CKD is almost three times higher in CAD patients than in the general population. The most important CKD progression factor in our study was DM, as more than 1/3 of the newly diagnosed diabetic patients already had some degree of CKD. There is a high incidence of acute renal injury in the cardiology patients, probably due to hypoperfusion and contrast agents used as demonstrated by the significant recovery of renal function one year after the event. Active search for CKD and DM should be mandatory for CAD patients.

