Methods Retrospective cohort analysis was performed on all patients admitted to the coronary care unit (CCU) between January 2011 and September 2019. A review of the electronic health records of patients with new or established type 2 DM, who had been admitted with acute coronary syndrome (ACS) or heart failure (HF) as their primary diagnosis code was performed. Discharge prescriptions were analysed to determine which patients had been prescribed a SGLT2 inhibitor. The admission creatinine and estimated glomerular filtration rate (eGFR) for all patients were recorded. eGFR ≥ 60 was used as the eligibility threshold for initiation of treatment with SGLT2 inhibitor as per summary of product characteristics. This data was analysed to determine whether there was a temporal change in prescriptions of this drug class. Statistical analysis was performed using standard Bayesain statistics.

Results There were 6870 patients admitted to the CCU between January 2011 and September 2019. 1054 patients had a diagnosis of type 2 DM and were admitted with ACS or HF. 77 patients were excluded from the study due to incomplete data. Thus, 977 patients were included in the final data set for analysis. There were 54 newly diagnosed diabetics and 923 with established type 2 DM. 865 patients were admitted with ACS and 112 patients with HF. The ratio of male to female was 2.6:1. The mean age of the patient cohort was 65.

There was a total of 40 patients prescribed SGLT2 inhibitors. Prior to the EMPA-Reg study in 2015, there were 4 of 387 eligible patients prescribed SGLT2 inhibitors, compared to 36 of 221 eligible patients thereafter. Chi-square statistic 45.1429 ($p < 0.00001$). Temporal analysis from 2015 to 2019 showed increase in use from 5.5% to 20.5% (figure 1).

Abstract 26 Figure 1 Temporal analysis

Conclusion There was a statistically significant increase in the use of SGLT2 inhibitors since the EMPA-Reg study. Recent published data on the benefits this drug class confers on HF management further strengthens the evidence for this change in practice. The new ESC guidelines were published in September 2019, which we suspect will result in even more widespread use of these drugs.

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WHAT IS THE RELATIONSHIP BETWEEN CHRONIC KIDNEY DISEASE AND SUBSEQUENT EVENTS IN A CORONARY HEART DISEASE POPULATION? A SECONDARY ANALYSIS OF THE EUROASPIRE V DATA

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Introduction Chronic kidney disease (CKD) is an important risk factor for cardiovascular disease (CVD). The EUROASPIRE V study, conducted across 27 European countries (2016–2017), investigated whether the European guidelines on secondary CVD prevention were being met.

Aims The aim of this secondary analysis of the EUROASPIRE V data was to compare the CVD event-rate in those with and without CKD (defined as an eGFR < 60 ml/min/1.73 m²).

Methods A cohort study was conducted of patients who were interviewed between 6–24 months after an index

Abstract 27 Table 1 Prevalence of cardiovascular risk factors in the participants

Risk factor	Number (n)	Percentage (%)
Family history of premature CVD*	3223	44.3
Smoking history	5416	65.6
Current smokers	1385	25.9
History of diabetes	2661	32.3
History of being overweight/obese	7074	85.7
Low SES**	3339	40.5
High psychosocial risk	1309	15.9
History of hypertension	7124	86.3
History of dyslipidaemia	7308	88.6
Ongoing systolic hypertension	2775	35.1
Ongoing physical inactivity	5814	70.5

*CVD, cardiovascular disease. **SES, socioeconomic status.

Abstract 27 Table 2 Mean eGFR in relation to recurrent CV events (mL/min/1.73 m²)

CV* death mean eGFR** (SD)	No CV death mean eGFR (SD)	Mean difference	95% CI	P value
65.66 (27.53)	80.55 (22.87)	14.89	(6.50, 23.37)	0.001
Stroke mean eGFR (SD)	No stroke mean eGFR (SD)	Mean difference	95% CI	P value
73.27 (22.37)	80.50 (22.88)	7.23	(2.16, 12.31)	0.006
MI*** mean eGFR (SD)	No MI mean eGFR (SD)	Mean difference	95% CI	P value
78.88 (26.15)	80.44 (22.90)	1.56	(-3.03, 6.14)	0.503

*CV, cardiovascular. **estimated glomerular filtration rate. ***MI, myocardial infarction. Independent samples t-test was used to compare eGFRs in those who recurrent events with those that did not ($p < 0.05$).

hospitalisation for coronary heart disease (CHD). Follow-up was subsequently performed at least 12 months after the interview to record new CVD events. The primary outcome was a composite of fatal and non-fatal CVD. Multivariable-adjusted Cox regression analysis was performed.

Results Of the 8251 participants who attended the interview, 2126 (25.8%) were female. The majority (7060, 86%) were Caucasian. In total, 1303 (16.7%) had CKD. The prevalence of CVD risk factors are outlined in table 1. At follow-up 7509 (98.5%) were alive. Of those that died, 37 (51.39%) deaths were due to CHD (figure 1). Regarding non-fatal events, 135 (1.8%) were hospitalised for myocardial infarction (MI) during follow-up and 84 (1.1%) were hospitalised for a stroke/TIA. Among those with recurrent CVD events (i) mean eGFR (95% CI) was 14.9 ml/min/1.73 m² lower in persons suffering fatal CVD vs. others (6.5, 23.4) $p=0.001$ (ii) eGFR was 7.23 ml/min/1.73 m² lower in stroke than no stroke (2.16, 12.31) $p=0.006$ (iii) eGFR was 1.56 ml/min/1.73 m² lower in MI than no MI (-3.03, 6.14) $p=0.503$. (Table 2, figure 2) Adjusted hazard ratio (95% CI) for CV events in those with CKD versus those without: (i) CVD Death 1.305 (0.519, 3.279) $p=0.572$ (ii) MI 1.228 (0.753, 2.000) $p=0.410$ (iii) Stroke 1.563 (0.864, 2.828) $p=0.14$.

Abstract 27 Figure 1 Known cause of death (n=72). CHD, coronary heart disease

Abstract 27 Figure 2 Kaplan meier analysis
There is a statistically significant association between CKD and stroke (Log Rank test p value 0.012), indicating an increased likelihood of having a stroke over follow-up in months in those with CKD versus those without

Conclusion A sixth of the European CHD population has CKD. Participants who had a stroke or died from CVD over follow-up had a statistically significantly lower baseline eGFR than those who did not. The HR suggest an increased risk for CV events in CKD but this was not statistically significant. Further studies with a longer follow-up period are needed in this area.

28 PERCUTANEOUS MITRAL VALVE REPAIR WITH MITRACLIP DEVICE IN HEMODYNAMICALLY UNSTABLE PATIENTS: A SYSTEMATIC REVIEW

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Background Percutaneous mitral valve edge-to-edge repair (PMVr) with the MitraClip device has been reserved as an alternative treatment for chronic mitral regurgitation (MR) in high surgical risk patients. Acute significant MR has been reported to complicate 12% of myocardial infarctions and is present in 5 to 12% of patients in cardiogenic shock. The use of MitraClip in hemodynamically unstable patients, who are of high surgical risk, is therefore increasing. However, there is a paucity of specific outcome data in this important clinical setting as these patients are generally not included in clinical trials.

Objectives The aim of the present study was to perform a systematic review of published data, and provide further insight into the baseline characteristics, management and clinical outcomes of unstable patients undergoing PMVr with MitraClip.

Methods We conducted a systematic review of the published data on MitraClip from its first use in 2003 to February 2020. Pubmed search terms included 'Acute' and 'MitraClip', and later 'MitraClip' and 'cardiogenic shock'. Studies referring to critically ill patients in cardiogenic shock or acute pulmonary edema were included. Studies referring to stable patients were excluded.

Results A total of 27 publications including 155 patients with significant MR (grade 4 in 91%) were included. Mean age was 70 ± 12 years with median Euroscore II and STS of 15.7 (IQR 10.5–27.6) and 18.1 (IQR 7.6–23.9), respectively. Clinical presentation was with cardiogenic shock in 77.5% of patients. The most frequent etiology of MR was ischemia (77%). Median time between hospital admission and MitraClip implantation was 22 (IQR 8–45) days. Hemodynamic support was required in the majority of the patients (87.1%), with vasoactive drugs and ventricular support in 101 patients (65.2%) and 67 patients (43.2%), respectively. MR was quantified as severe (grade 4) in 91.3% of the patients, with 15.9% related to a papillary muscle rupture in the context of acute STEMI. Left ventricular ejection fraction (LVEF) was moderate-to-severely depressed ($34.2 \pm 15.6\%$). Device success was achieved in 147 (95%) patients with a significant reduction in MR (grade ≤ 2 in 94%, $p < 0.001$). The weaning time from the procedure, to discontinuation of circulatory or respiratory support, was 2.5 (IQR 1.0–6.8) days, with an in-hospital mortality and non-fatal complication rate of 9% and 5.2%, respectively. At 6-month follow-up, mortality rate was 21.5%, with persistent reduction in MR severity for survivors (grade ≤ 2 in 83%) and one case of mitral valve reintervention.