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Title: THE RISK OF STROKE-HEART SYNDROME IN PATIENTS WITH ACUTE ISCHAEMIC STROKE AND CHRONIC KIDNEY DISEASE: AN INDIVIDUAL PATIENT DATA POOLED ANALYSIS FROM THE VISTA DATABASE

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On behalf of:

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Background and Aims: Adverse cardiac events following ischaemic stroke (stroke-heart syndrome, SHS) is an emerging post-stroke complication. We investigated the relationship between the risk of SHS in patients with chronic kidney disease (CKD).

Methods: We analysed data from the Virtual International Stroke Trials Archive (VISTA). We defined SHS as the incidence of cardiac complications within 30 days post-stroke, including acute coronary syndrome/myocardial injury, heart failure/left ventricular dysfunction, atrial fibrillation/flutter, other arrhythmia/electrocardiogram abnormalities, and cardiorespiratory arrest. We compared the risk of SHS between patients with CKD, defined by an estimated glomerular filtration rate (eGFR) <60 ml/min/1.73m2, and those without CKD. We employed Cox proportional hazards models to assess the risk trends for developing SHS and its manifestations based on eGFR.

Results: Among 10,208 patients with acute ischaemic stroke (mean age 68±12 years; 55% male), 2,900 (28%) had CKD, with the majority (97%) classified as CKD stage 3a. SHS occurred in 1,533 (15%) patients. The incidence of SHS was significantly higher in patients with CKD compared to those without (cumulative incidence freedom from the event [95% confidence interval]: 81.1% [79.6-85.2] vs. 86.3% [85.6-87.1], p<0.001). Patients with CKD showed a significantly higher risk of SHS compared to those without CKD (adjusted hazard ratio, aHR: 1.17 [1.00-1.36], p=0.047). Furthermore, there was an inverse relationship between per unit increase of eGFR with the risk of SHS, aHR 0.98 [0.91-0.99], p=0.006) (Figure).

Conclusion: The risk of stroke-heart syndrome is higher in patients with CKD, with a greater risk observed in poorer renal function.

The risk of SHS based on eGFR