Reviewer's report

Title: The risk for chronic kidney disease in patients with heart diseases: a 7-year follow-up in a cohort study in Taiwan

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Reviewer: Taku Inoue

Reviewer's report:

This study demonstrated clinically significant phenomenon from the unique point of view based on the large national claims data of Taiwan and worth while to be published. Most of the points the reviewers pointed out were corrected, but some points needs to be corrected before publication.

Major
1. Estimated mechanism of developing CKD in this cohort

Table 2 demonstrates the higher incidence of developing CKD in patients with DM and hypertension regardless of comorbid heart disease. Table 3 confirms the significance of DM and hypertension for developing CKD. These results suggest the importance of atherosclerotic risk factors for developing CKD and this is consistent with KDOQI clinical practice guidelines for CKD, regardless of heart disease. Moreover, additional analysis and table that authors made provide us very important information. Hypertensive heart disease, ischemic heart disease, and chronic heart failure, but not rheumatic or valvular heart disease, are the significant factors for developing CKD in patients with heart disease. These results remind us the importance of atherosclerotic risk factors, related heart disease, and chronic heart failure as their terminal stage, for developing CKD. As the authors insist, venous congestion might be one of the important factors for developing CKD. However the dataset of the present analysis have no hemodynamic data. Additional analysis is not enough for suggesting venous congestion as the risk for developing CKD. It’s better to discuss venous congestion as one of the possible mechanisms for developing CKD. As the authors mentioned, reciprocal direction between CKD and heart disease might be emphasized.

Minor
1. P10 Line4: The association between CKD and heart disease was significantly greater in men than women and the HR increased with age in the multivariable Cox model (Table 3 model 2 and model 3).
2. P10 Line 6: The hazard ratios of developing CKD associated with heart disease were augmented with age after adjusted for socioeconomic factors (Table 3, model 2). The statistical significance still existed even after additional adjustment for cardiometabolic risks such as diabetes, hypertension and hyperlipidemia (Table 3, model 3).
3. P10 Line 8: The hazard ratio of CKD for patients with heart disease decreased to 2.37 (95% CI 2.05-2.74). This sentence is the main result of this study and should be more emphasized.

4. Low incidence rate of CKD: CKD diagnosis system used in this study might based on the eGFR calculated by each physician, and diagnosed and registered as CKD in patients with eGFR < 60ml/min/1.73m2 or abnormally elevated serum creatinine. Thus, the majority of patients with slightly elevated serum creatinine likely not to be diagnosed as CKD if the physicians are not nephrologists. A low incidence of CKD might not only be the complete exclusion of CKD from baseline registry, but there might not have fully been captured the patients with developing CKD in a follow up period. If so, authors might mention about it in limitation.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests.