

Anemia and renal dysfunction: Two different conditions but same results in cardiovascular disease

We read with interest the article “A prospective study about impact of renal dysfunction and morbidity and mortality on cardiovascular events after ischemic stroke” by Penko et al. [1]. They aimed at investigating the impact of renal dysfunction on future cardiovascular (CV) events and total mortality in patients suffering from ischemic stroke. They demonstrated that the patients with ischemic stroke and renal dysfunction are at higher risk for long-term CV and total mortality. The patients with ischemic stroke and renal dysfunction are also at higher risk for new CV morbidity.

Anemia is an independent nontraditional predictor of a poor outcome in patients with CV diseases as well as in the general population [2]. Anemia is common and has been associated with hospitalization. It is an independent risk factor for mortality in the general population and also in patients with coronary artery disease, heart failure or stroke [3]. In context, if the authors had mentioned hemoglobin levels, the results of present study would be better.

Renal dysfunction is a crucial parameter for predicting CV mortality. Serum creatinine level is commonly used for renal function in clinical practice. However, the glomerular filtration rate (GFR) provides more accurate knowledge about renal function than the serum creatinine level [4]. GFR was estimated using the simplified Modification of Diet in Renal Disease (MDRD) formula in the current study [5]. The Cockcroft-Gault equation (CGE) is another method for calculating the GFR. However, the CGE may estimate lower GFR in younger age groups compared with the MDRD formula, but it can measure higher GFR in older individuals compared with the MDRD formula. The Chronic Kidney Disease Epidemiology Collabora-

tion (CKD-EPI) recently published an equation for GFR using the same variables (serum creatinine level, age, sex and race) as the MDRD formula. However, the CKD-EPI equation more precisely categorized individuals with respect to long-term clinical risk of incident end-stage renal disease, all-cause mortality, coronary heart disease and stroke compared with the MDRD formula [6].

In conclusion, though renal dysfunction is an important factor to predict mortality on CV events after ischemic stroke, many conditions may be associated with it. Therefore, we think that the MDRD should be evaluated together with other measurement method for GFR in patients with ischemic stroke. These findings will enlighten further studies about renal dysfunction and long-term risk of CV events after ischemic stroke.

Conflict of interest: None declared

References

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