Medical Sciences

Epidemiological evidence and future perspective in kidney diseases

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Epidemiological studies have been advanced in medicine including kidney diseases. We updated epidemiological evidence in kidney diseases. For acute kidney injury, although Kidney Disease: Improving Global Outcome criteria was developed, further studies on the effects of fluid balance adjusted creatinine, minimum versus most recent baseline serum creatinine and the best surrogate baseline serum creatinine are required. For chronic kidney disease, we recently found a significant increased risk of chronic kidney disease in patients consuming sugar-sweetened soda, but not in patients consuming artificially sweetened soda. Interestingly, we found an inverse association between high alcohol consumption and risk for developing CKD in males. There is no significant association between high alcohol consumption and the risk for developing proteinuria or end-stage renal disease (ESRD). Future studies to identify these underlying mechanisms should be conducted.

The associations between chronic kidney disease and the consumption of beverage and alcohol

We recently found a significant increased risk of chronic kidney disease (CKD) in patients consuming sugar-sweetened soda, but not in patients consuming artificially sweetened soda. Interestingly, we found an inverse association between high alcohol consumption and risk for developing CKD in males. There is no significant association between high alcohol consumption and the risk for developing proteinuria or end-stage renal disease (ESRD). Future studies to identify these underlying mechanisms should be conducted.

Electrolyte and acid-base abnormalities

Pathophysiology of electrolyte imbalance and medication related electrolyte abnormalities have been currently more reported. The association between proton pump inhibitors and hypomagnesaemia is currently more clear. Hypocalcemia has been reported in denosumab use for patients with chronic kidney disease (CKD). The use of the Stewart (or strong ion) model for acid-base approach has recently been reviewed, the application of this model vs. traditional method in clinical practice especially in ICU setting is a fascinating topic to anticipate.

Calcium and bone metabolism

Fibroblast growth factor- 23 (FGF 23) has been recognized as a culprit for increased cardiovascular mortality in patients with CKD and end-stage renal disease. Future studies to identify whether reduction of FGF-23 is associated with reduced cardiovascular mortality in human are required.

Anemia and Vitamin D deficiency

Vitamin D deficiency is not only associated with cardiovascular outcomes. Recently, vitamin D treatment was found to reduce hepcidin level in healthy adults. The future study need to confirm if lowering hepcidin with vitamin D can help improve anemia of CKD.

IgA Nephropathy and Henoch-Schönlein purpura in elderly

IgA nephropathy is the most common glomerulonephritis and a recent meta-analysis found that IgA nephropathy in elderly is different from adults. Future studies with international classification, Oxford classification for IgA nephropathy should be conducted for elderly patients with primary IgA nephropathy and Henoch-Schönlein purpura.

Malignancy and Glomerular diseases

Membranous nephropathy has been reported association with solid organ tumors. Conversely minimal change disease is associated with...
hematologic malignancies. Interestingly, minimal change disease has also been reported in patients with solid organ tumors. The use of PLAR2 to differentiate between primary membranous nephropathy and each particular cancer related membranous nephropathy is also an interesting investigational topic.

Atypical hemolytic uremic syndrome and monoclonal gammopathy

26. Cheungpasitporn, W, Jirajariyavej, T, Howarth, CB, Rosen, RM: Henoch-Schonlein purpura in an older man presenting as rectal bleeding and IgA