

10th European Nephrology Conference

October 24-26, 2016 Rome, Italy

Seasonal variation in blood pressure and fluid status for chronic kidney disease (CKD) patients

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Objectives: There has been a few data about seasonal variation in blood pressure for chronic kidney disease (CKD) patients, but the role of volume status in seasonal blood pressure variations remains controversial. Therefore, we investigated the seasonal variation in blood pressure and fluid status for CKD patients.

Methods: 50 CKD patients (27 males and 23 females, age 66.7 ± 13.3 years) in a single center were followed between December 1, 2014 and November 30, 2015. We measured monthly the parameters such as their office blood pressure (BP), fluid status and amount of estimated salt intake by 24-hour urinary sodium excretion. Bioelectrical impedance analysis was used to assess their fluid status and they were expressed in extracellular/total body water (ECW/TBW). We examined their seasonal variation.

Results: The causes of renal disease in 50 patients were chronic glomerulonephritis 19 (38%), diabetic nephropathy 16 (32%), hypertensive nephrosclerosis 12 (24%), polycystic kidney disease 2 (4%) and gouty kidney 1 (2%). There were no difference in their office blood pressure, fluid status and amount of estimated salt intake significantly (Spring: $122.8 \pm 13.5/67.5 \pm 9.8$ mmHg, 0.4122 ± 0.1056 , 6.1 ± 2.9 g/day, Summer: $123.6 \pm 12.9/68.0 \pm 10.3$ mmHg, 0.3922 ± 0.0202 , 5.6 ± 2.6 g/day, Autumn: $125.9 \pm 12.0/70.3 \pm 9.0$ mmHg, 0.3939 ± 0.0087 , 5.8 ± 2.7 g/day, Winter: $126.1 \pm 9.5/68.6 \pm 9.9$ mmHg, 0.3938 ± 0.0099 , 5.9 ± 2.3 g/day).

Conclusions: Our results suggest that the blood pressure and the fluid status of CKD patients don't vary with the seasonal variation. Appropriate fluid control may contribute to well blood pressure regardless of season.

Biography

Takashi Hara graduated from Kumamoto University of Medicine. He has worked for a Nephrologist for 7 years.

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