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Angiotensin receptor blockade를 사용 중인 비당뇨성 만성 콩팥병 환자에서 저염식이 산염기에 미치는 영향

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Low Salt Diet Increase Estimated net Endogenous Acid Production in Non-diabetic CKD Patients Treated with Angiotensin Receptor Blockade

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Background: High net endogenous acid production (NEAP) levels precede renal disease progression in patients with chronic kidney disease (CKD). Angiotensin receptor blockade (ARB) exacerbates metabolic acidosis by inducing a distal-tubular acidification defect. Little is known about the acid-base effects of LSD on patients treated with ARB. We therefore evaluated the effect of LSD on NEAP in non-diabetic patients with CKD treated with ARB.

Methods: A total of 205 adult subjects were enrolled in the present study from the original trial (ESPECIAL trial: NCT01552954). Non-diabetic CKD patients were divided into LSD and non-LSD groups and were treated with olmesartan for 8 weeks.

Results: During the interventional 8 weeks, NEAP in the LSD group was much increased, compared with control group (12.9±32.0 versus -2.0±35.0, p=0.002). NEAP was positively associated with LSD after adjusting for age, serum creatinine, sodium, bicarbonate, uric acid, 24-hour urinary creatinine excretion, previous randomization (r=.23, p=0.001). A decrement of 1g/d of salt intake predicted an increment of 1.75 mEq/d in NEAP (P=0.008). Additional reduction of 2.39 g/d of protein intake with the reduction of 1g/d of salt intake cannot increase NEAP under the treatment of ARB and LSD.

Conclusion: We found that LSD may increase NEAP in non-diabetic CKD patients using ARB, which suggests that additional dietary protein restriction should be required for maintaining NEAP in non-diabetic CKD patients with ARB and LSD.

Key Words: 대사성 산증, 저염식, ARB
Acidosis, Low salt diet, Angiotensin receptor blockade