P-179

고지방식이 마우스 비만 모델에서 대사장애 및 신질환에 미치는 Celastrol의 효과

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The Effect of Celastrol on Metabolic Disturbances and Renal Injury in High Fat Diet-induced Obesity Mice

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Celastrol, a quinone methide triterpenoid derived from the medicinal plant Tripterygium wilfordii, possesses various biological activities such as anti-oxidant, anti-tumor, and anti-inflammatory activities. In this study, we examined the effect of celastrol on metabolic disturbances and renal injury in high fat diet-induced obesity mice. 6-week-old C57/BL6 mice were devided into 3 groups. Group 1 was fed with normal diet. Group 2 and 3 were fed with high fat diet containing 60% of lipid for two months. Group 1 and 2 were injected with saline as control, and group 3 was injected with 1 mg/kg/day of celastrol intraperitoneally. Obesity was induced by high fat diet in group 2 and celastrol treatment showed weight reducing effect in group 3. In group 3, there were significant improvement in the levels of fasting blood glucose, HbA1c, insulin resistance and plasma lipid levels compared with group 2. In groups 3, celastrol treatment reduced proteinuria significantly compared with group 2. In summary, celastrol treatment improves insulin resistance, dyslipidemia and renal injury in high fat diet-induced obesity mice.

Key Words: 비만, 단백뇨, 인슐린저항성
Obesity, Proteinuria, Insulin resistance