

報告番号

香大医博乙 第 277号

学位論文の内容の要旨

(Summary of the Substance of Dissertation)

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(Name)

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論文題目 (Thesis Subject)	Effects of diuretics on SGLT2 inhibitor-induced changes in blood pressure in obese rats suffering from the metabolic syndrome
(論文要旨) (Summary)	<p>Objective: Experiments were carried out to investigate whether diuretics (hydrochlorothiazide + furosemide) impact on the effects of a sodium-dependent glucose co-transporter 2 (SGLT2) inhibitor on glucose metabolism and blood pressure in metabolic syndrome SHR/NDmcr-cp(+/+) rats (SHRcp).</p> <p>Methods: Male 13-week-old SHRcp were treated with: (i) vehicle; (ii) the SGLT2 inhibitor luseogliflozin (10 mg/kg/day); (iii) diuretics (hydrochlorothiazide; 10 mg/kg/day + furosemide; 5 mg/kg/day); or (iv) luseogliflozin + diuretics (n = 5–8 for each group) by oral gavage for 5 weeks. Blood pressure and glucose metabolism were evaluated by a telemetry system and oral glucose tolerance test, respectively.</p> <p>Results: Vehicle-treated SHRcp developed non-dipper type hypertension (dark- vs. light-period mean arterial pressure (MAP): 148.6±0.7 and 148.0±0.7 mmHg, respectively, $P=0.2$) and insulin resistance. Compared with vehicle-treated animals, luseogliflozin-treated rats showed an approximately 4000-fold increase in urinary excretion of glucose and improved glucose metabolism. Luseogliflozin also significantly decreased blood pressure and turned the circadian rhythm of blood pressure from a non-dipper to dipper pattern (dark- vs. light-period MAP: 138.0±1.6 and 132.0±1.3 mmHg, respectively, $P<0.01$), which were associated with a significant increase in urinary excretion of sodium. Addition of diuretics did not influence luseogliflozin-induced improvement of glucose metabolism and circadian rhythm of blood pressure in SHRcp.</p> <p>Conclusion: These data suggest that a SGLT2 inhibitor elicits its beneficial effects on glucose metabolism and hypertension in subjects with metabolic syndrome undergoing treatment with diuretics.</p>

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(備考) 論文要旨は、日本語で1,500字以内にまとめてください。
 (Recital) Sum up the summary within 1500 letters.