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Suppressive Effect of Components in Lemon Juice on Blood Pressure in Spontaneously Hypertensive Rats

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The effects of lemon juice and its crude flavonoids on blood pressure were examined using spontaneously hypertensive rats (SHR). The 5% diluted lemon juice was orally administered in the diet to SHR, and they tended to have a lower systolic blood pressure than the control rats after 90 days. The systolic blood pressure of SHR fed a diet containing crude flavonoids from the juice for 16 weeks was significantly lower than that of the control group ($p < 0.05$). The systolic blood pressure with administration of fraction B, which was fractionated from the crude flavonoids, was significantly lower ($p < 0.05$) after 4 weeks. The crude flavonoids and fraction B contained abundant flavonoid glycosides of eriocitrin, hesperidin, and 6,8-di-C- β -glucosyldiosmin as determined by high performance liquid chromatography (HPLC) analysis. The crude flavonoids and the flavonoid glycosides had an inhibitory effect on angiotensin I converting enzyme (ACE).

Keywords: [lemon juice](#), [blood pressure](#), [spontaneously hypertensive rats \(SHR\)](#), [flavonoid](#)

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