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Poster Sessions

Hesperidin improves vascular remodeling in cuff-induced vascular injury mouse model

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Recently, we reported that drinking of *Citrus unshiu* juice (CU) or *Citrus iyo* juice (CI) drinking attenuated vascular remodeling in vascular injury mouse model. This effect was more marked with CI. Therefore, we focused on flavanone, hesperidin, which is more abundantly contained in CI compared with CU, and investigated the effect of hesperidin in vascular injury in mice. Eight-week-old male C57BL/6 mice were administrated 100 mg/kg/day hesperidin orally by gavage. Two weeks after administration, vascular injury was induced by polyethylene cuff placement on the femoral artery. Neointima formation was determined 14 days after cuff placement by evaluating intima/media ratio. One week after cuff placement, mRNA levels were measured by quantitative real-time RT-PCR. Treatment with hesperidin did not change systolic blood pressure and body weight compared with that in control mice. Neointima formation in the injured artery was significantly increased 2 weeks after cuff placement. Treatment with hesperidin significantly decreased neointimal formation. Expression of mRNA of tumor necrosis factor (TNF)-alpha and monocyte chemoattractant protein (MCP)-1 were increased by cuff placement. These increases tended to decrease in treatment with hesperidin. These results suggest that the intake of hesperidin in citrus fruits juice should prevent vascular injury.