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Short-term treatment with hepatoselective NO donor V-PYRRO/NO improves blood flow in hepatic microcirculation in liver steatosis in mice

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Abstract

Background: The impairment of liver sinusoidal endothelial cells (LSECs) function and diminished nitric oxide (NO) production has been regarded as an important pathogenic factor in liver steatosis. Restoring NO-dependent function was shown to counteract liver steatosis, obesity, and insulin resistance. However, it is not known whether restored liver perfusion and improvement in hepatic blood flow contributes to the anti-steatotic effects of NO. Taking advantage of *in vivo* MRI, we have examined the effects of short-term treatment with the hepatoselective NO donor V-PYRRO/NO on hepatic microcirculation in an advanced liver steatosis.

Methods: Male C57BL/6 mice fed for six-month a high fat diet (HFD; 60 kcal% of fat) were treated for 3 weeks with V-PYRRO/NO (twice a day 5 mg/kg b.w. *ip*). An MRI