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Sarah Martin
University of Saskatchewan, Canada

Oral L-arginine supplements have been tried to lower blood pressure with con icting results, with one of the factors a ecting the outcome is whether the subject is healthy or has hypertension. Arginine is a substra for at least four enzymes including nitric oxide synthase and arginase, but the impact of oral supplements on di erent metabolic pathways is not clear. We examined the e ect of L-arginine and D-arginine, at two di erent doses of 500 mg/kg/d (500) or 1000 mg/kg/d (1000) in drinking water administered for 4, 12 or 16 weeks to separa groups of 9 week old male Sprague-Dawley (SD) rats or 5 week old male Zucker Diabetic Fatty (ZDF) rats. W report the e ects on the endothelial nitric oxide synthase (eNOS)/nitric oxide (NO) and the arginase/urea metaboli pathways. L-arginine (500) increased eNOS expression in the aorta and the kidney and plasma nitrite levels, did not a ect the mean arterial pressure (MAP) in the SD rats. L-arginine (500) also decreased arginase II in th ileum. D-arginine also unexpectedly increased eNOS expression in the kidney and decreased arginase in the l and the ileum. Arginine (1000) also did not a ect the MAP in the SD rats. On the other hand, L-arginine (1000) attenuated the increase in MAP in the ZDF rats without a ecting eNOS expression or nitrite levels. However, it di not attenuate the increased arginase expression or urea levels in the ZDF rats as compared to Zucker lean rats conclusion, two di erent doses and durations of oral arginine treatment did not a ect the MAP in Sprague-Dawley rats, but attenuated it in the ZDF rats. us, the blood pressure lowering e ect of oral L-arginine should not be taken for granted and their e ects on the arginase and other metabolic pathways (results not shown) should be consider to avoid adverse e ects.

Biography

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