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Author	川島, 紘一郎(Kawashima, Koichiro) 早川, 晃正(Hayakawa, Terumasa) 大畑, 尚代(Ohata, Hisayo) 藤本, 和子(Fujimoto, Kazuko) 鈴木, 岳之(Suzuki, Takeshi)
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**Reduction in Blood Pressure and Vascular Reactivities to Pressor Substances  
by Chronic Treatment with Piretanide in Spontaneously  
Hypertensive Rats**

**Koichiro KAWASHIMA, Terumasa HAYAKAWA, Hisayo OOHATA,  
Kazuko FUJIMOTO and Takeshi SUZUKI**

川島紘一郎, 早川晃正, 大畑尚代, 藤本和子, 鈴木岳之

1. Effects of treatment with piretanide (10 and 30 mg/kg per day p.o.) for 9 weeks on blood pressure, urinary excretion of electrolytes, and vascular reactivities to pressor substances were investigated in 10-week-old spontaneously hypertensive (SHR) rats.

2. Piretanide (30 mg/kg) prevented development of hypertension and produced a significant reduction in blood pressure from the 2nd week of the treatment. A slight decrease in blood pressure was observed in rats treated with the lower dose of piretanide.

3. Piretanide produced significant and dose-dependent diuresis throughout the experiment. Although significant natriuresis was observed in the 1st and 4th week of the treatment, natriuresis disappeared in the 8th week. Urinary excretion of potassium was decreased significantly by piretanide throughout the experiment.

4. Attenuation of pressor responses to phenylephrine and angiotensin II was observed after chronic administration of piretanide (30 mg/kg).

5. These data demonstrate the contribution of attenuated vascular reactivities to pressor substances as well as a diuretic action to the antihypertensive effect of piretanide during its long-term administration in SHR rats.

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