

The effects of dopamine (3 mcg/kg/min, iv.) and furosemide (1 mg/kg, bolus dose, iv. and 1 mg/kg/min, maintenance dose, infusion) on renal hemodynamics following a 30 min infusion of Russell's viper venom (RVV, 0.1 mg/kg) were studied in anesthetized male mongrel dogs. All parameters were determined before RVV injection and at every 2 hours over a period of six hours.

Treatment with both dopamine and furosemide produced renal vasodilation, high urine flow rate (V), and attenuation of the fall in glomerular filtration rate (GFR) that were markedly reduced by the RVV. In spite the renal blood flow (RBF) kept lower than the control period. Addition, dopamine plus furosemide occurred without cardiovascular effects (arterial blood pressure and heart rate). In contrast, single use of dopamine or furosemide was totally ineffective in producing renal vasodilation, diuresis, or maintenance of the GFR. Dopamine alone had similar renal effect as control group (RVV). Although renal function improved at 4 and 6 hour but it kept lower than the control period significantly ($p < 0.05$). Furosemide unchanged RBF, GFR, and V at 2 hour, nevertheless it caused a significant decrease in renal function at 4 and 6 hour ($p < 0.05$).

The data indicated that the RVV-containing enzyme might destroy dopamine that was solely used. Both renal vasodilation and dopamine production in the kidney induced by furosemide may responsible for the synergistic effect of combined use of dopamine and furosemide on improving the renal function.

ภาควิชา สหสาขาวิชาเภสัชวิทยา
สาขาวิชา สหสาขาวิชาเภสัชวิทยา
ปีการศึกษา 2533

ลายมือชื่อผู้บันทึก
ลายมือชื่ออาจารย์ที่ปรึกษา