

Heart

4.24 Chronic Ac-SDKP Administration Reduces Cardiac and Renal Perivascular Fibrosis in Diabetic Rats

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Introduction: N-acetyl-seryl-aspartyl-lysyl-proline (Ac-SDKP) is a tetrapeptide hydrolyzed by ACE, with potential antifibrotic effect.

Aim: To study the effect of chronic Ac-SDKP administration on cardiac and renal perivascular fibrosis in diabetic rats. Methods: Ac-SDKP (n=5) or saline (n=5) were administered for two months by osmotic minipumps to 10 diabetic (streptozotocin injection) SD rats. Six rats (control) underwent buffer injection. Systolic blood pressure (SBP), blood glucose, and body weight were measured. At the end of the experimental period, blood sample was collected to measure Ac-SDKP, and the hearts and kidneys were excised. Perivascular fibrosis (%) in heart and kidney was determined by quantitative morphometry (MetaMorph. 6.2, UIC). Results are in the table.

| | Control (n=6) | Diabetes (n=5) | Diabetes+ Ac-SDKP (n=5) |
|-----------------------------|---------------|----------------|-------------------------|
| SBP (mmHg) | 114.5 ± 3.9 | 118.3 ± 8.2 | 111.4 ± 10.2 |
| Blood glucose (mg/dl) | 79.5 ± 2.81 | 419.0 ± 37.8* | 370.4 ± 63.5* |
| Ac-SDKP (nmol/l) | 2.36 ± 0.11 | 1.82 ± 0.19 | 3.56 ± 0.41 ** |
| Cardiac perivasc.fibrosis % | 25.8 ± 2.3 | 46.1 ± 7.1* | 30.5 ± 3.9° |
| Renal perivasc.fibrosis % | 31.5 ± 3.7 | 77.4 ± 15.4* | 35.5 ± 7.5° |

*p<0,05.