

## Rosiglitazone Prevents Renal Dysfunction in DOCA-salt Hypertensive Rats

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**Methods :** Rats were implanted with DOCA strips (200 mg/kg, s.c.) 1- week after unilateral nephrectomy. Two weeks after DOCA implantation, rats were treated with RGZ for another 2 weeks. Systolic blood pressure (SBP) was indirectly measured by tail cuff method. The expression of Na,K- ATPase, type 3 Na/H exchangers (NHE3), type 2 Na/K/2Cl cotransporters (NKCC2), Na/Cl cotransporters (NCC), nitric oxide synthases (NOS), neutral endopeptidases (NEP) and mineralocorticoid receptors (MR) was determined in the kidney by semiquantitative immunoblotting and immunohistochemistry. The mRNA expression of natriuretic peptides (NPs) and endothelin-1 (ET-1) was determined by real time PCR.

**Results :** In DOCA/salt rats, SBP was markedly increased and creatinine clearance decreased. Urinary total and fractional excretion of sodium were increased. The protein expression of Na,K- ATPase, NHE3, NKCC2, NCC, MR and NEP was decreased. The mRNA levels of ANP, BNP, CNP and ET-1 were increased in DOCA- salt hypertension. Accordingly, the expression of neuronal NOS was decreased, while that of endothelial- and inducible NOS was increased. RGZ prevented dysregulation of sodium transporters, NPs and NOS, along with normalized SBP, creatinine clearance and urinary excretion of sodium.

**Conclusion :** These findings indicate that RGZ may prevent DOCA- salt hypertension through affecting the regulation of sodium transporters and renal hormones

**Key Words :** Rosiglitazone, 고혈압, 나트륨운반체

Rosiglitazone, Hypertension, Sodium Transporters