Dokumenttyp: 
journal article

Autor(en) des Beitrags: 
Rusai, Krisztina; Prokai, A; Juanxing, C; Meszaros, K; Szalay, B; Pásti, K; Müller, V; Heemann, U; Lutz, J; Tulassay, T; Szabo, A J

Titel des Beitrags: 
Dexamethasone protects from renal ischemia/reperfusion injury: a possible association with SGK-1.

Abstract: 
Previous experimental data suggest that steroids might have protective effects during hypoxic/ischemic injury of various organs. In this study, the association between dexamethasone (Dexa) treatment and the anti-apoptotic SGK-1 was tested in ischemic renal injury. In vitro, HK-2 cells were exposed to 24 h hypoxia, and the effect of Dexa incubation on SGK-1 expression / activation and on cell death was studied. In an in vivo rat model of unilateral renal IR, animals were treated with Dexa, and serum renal function parameters, tissue injury and SGK-1 expression and localization were examined after different reperfusion times (2 h, 4 h and 24 h). Dexa at a dose of 2 mg/L exerted a protective effect on cell survival assessed by LDH release and vital staining paralleled by marked up-regulation of SGK-1. In rats, 2 mg/kg Dexa treatment 24 h prior to ischemia resulted in less severe tissue injury and ameliorated urea nitrogen levels 24 h after reperfusion. Furthermore, SGK-1 expression and phosphorylation were higher in Dexa animals demonstrated by Western blot and immunofluorescence technique. Our results provide novel data on the signalling mechanism of Dexa under hypoxia / ischemia and further support that Dexa emerges as an attractive pharmacological agent for the prevention of ischemic injury.

Zeitschriftentitel / Abkürzung: 
Acta Physiol Hung