Protective effect of the standardized leaf extract of Ginkgo biloba (EGb761) against hypertension-induced renal injury in rats.

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Abstract:

BACKGROUND: Ginkgo biloba leaves extract has been widely used worldwide to protect against oxidative stress-induced cell damage and improves blood circulation. METHODS: The potential protective role of the standardized leaf extract of Ginkgo biloba (EGb761) on hypertension-induced renal injury was investigated in rats. Hypertension was induced in rats by L-NAME. RESULT: Repeated treatment with EGb761 produced progressive reductions in the systolic, diastolic and mean arterial blood pressure. Also, EGb761 increased the progressive reductions in blood pressure induced by losartan. Hypertension-induced marked elevation of renal malondialdehyde (MDA) and nitrite levels and reduction of reduced glutathione (GSH) level were inhibited by EGb761. In addition, hypertension-induced increases in tumor necrosis factor-alpha (TNF-α), interleukin-6 (IL-6) and interleukin-1β (IL-1β) levels in renal tissues were inhibited by EGb761. Also, treatment with EGb761 inhibited hypertension-induced decrease in endothelial nitric oxide synthase (eNOS) protein expression and increase in the protein expressions of inducible NO synthase (iNOS), TNF-α, IL-6 and IL-1B in the kidney tissues. EGb761 enhanced losartan effects on renal tissues oxidative stress, nitrite, and inflammatory markers levels and on protein expressions of eNOS, iNOS, TNF-α, IL-6 and IL-1B, effects. CONCLUSIONS: These results indicate that EGb761 has the ability to protect against hypertension-induced renal injury.

Keywords:

Ginkgo biloba extract; hypertension; immunohistochemistry; losartan; renal injury

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