The nephroprotective effects of ginkgo biloba extract (EGb761) 1 against l-NG-nitroarginine methyl ester-induced hypertension in 2 rats: role of oxidative stress and inflammatory markers

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Abstract:

Background Ginkgo biloba extract 761 (EGb761) was studied for its nephroprotective effects in experimentally induced hypertension. Hypertension is increasingly a cause of end‑stage renal diseases. Increased cytokine release and oxidative stress are mechanisms that appear to be involved in the pathogenesis of hypertensive renal damage. EGb has antioxidant and anti‑inflammatory effects and can attenuate hypertensive renal damage. Methods and results Male adult Wistar rats were used in this study. Hypertension was induced in these rats by administering l‑NG‑nitroarginine methyl ester (l‑NAME) (10 mg/kg/day, intraperitoneal) for 12 weeks. Another group of rats received l‑NAME and EGb761 (100 mg/kg/day, orally) starting from the ninth week to the end of treatment. It was found that the blood pressure was reduced at the end of 12th week in rats treated with EGb761 compared with l‑NAME‑treated (hypertensive) rats. EGb761‑treated rats showed lower renal tissue malondialdehyde level and renal tissue tumor necrosis factor‑α level when compared with l‑NAME‑treated rats (hypertensive). Conclusion EGb761 has antihypertensive effect; it can protect the kidney from hypertension through the reduction of renal inflammation and oxidative stress.

Keywords:

experimental hypertension, ginkgo biloba extract, kidney, rat, tumor necrosis factor-α

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