

عنوان مقاله:

Assessment of the Anti-apoptotic Effects of Peganum harmala Leaf Extract on Type ۲ Diabetes in the Kidney of Male Wistar Rats

محل انتشار:

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خلاصه مقاله:

Background: Growing evidence has shown that the apoptosis of cells plays an important role in the advancement of the Diabetic nephropathy (DN). Objectives: This study attempted to discover the therapeutic potential of Peganum harmala leaf extract in the apoptosis of diabetic kidney disease. Methods: In the present experimental research, ۳۲ male Wistar rats were studied, and diabetes was induced by streptozotocin (STZ) (۶۵ mg/kg). The animals were randomly divided into four groups (n=۸, in each group) as follows: control, diabetic, control+leaf extract, diabetic+leaf extract. For our purposes, the methanolic extract of P. harmala leaves (۱۵۰ mg/kg) was given by gavage for ۲۸ days. Flow cytometry and real-time polymerase chain reaction (PCR) analyses were utilized to determine the percentages of apoptotic cells. Also, histological alterations and blood biochemical parameters were evaluated. Results: The P. harmala leaf extract has a high amount of flavonoids (۲۵.۸۴%), a lower percentage of alkaloids (۰.۱۴%), and some antioxidant properties. Serum urea ($P<۰.۰۰۱$) and apoptosis ($P<۰.۰۵$) significantly elevated in diabetic rats relative to the control ones. The mean of fasting blood creatinine, urea, and albumin level was not significantly changed in diabetic+leaf extract rats as compared to the diabetic ones. Histopathological results also displayed that diabetic complications in the kidney could not be improved following treatment by the leaf extract of P. harmala. In addition, the leaf extract could not significantly reduce the apoptosis and caspase-۳ expression compared to diabetics in renal cells. Conclusion: Based on our findings, the leaf extract of P. harmala is unable to inhibit apoptosis in the diabetic kidney model.

کلمات کلیدی:

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