Renal Protective Activity of Hsian-tsao Extracts in Diabetic Rats[1]

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Objective To investigate the renal protective activity of Hsian-tsao Mesona procumbens Hemsl. water extracts in diabetic rats. **Methods** Thirty Sprague-dawley female rats were randomly divided into three groups (n=10 each), "control group" with intraperitoneal saline injection, "diabetic group" with 60 mg of intraperitoneal streptozotocin injection per kg of body weight and "Hsian-tsao group" with intragastric administration of Hsian-tsao extraction everyday for 4 weeks after intraperitoneal streptozotocin injection. The body weight and blood sugar were measured before and after model induction in the three groups. Thrombospondin-1 (TSP-1) expressions in the kidney were monitored by immunohistochemistry. Kidney ultrastructural changes were also analyzed by using transmission electron microscopy. **Results** Before diabetic model induction, there were no significant differences among the three groups in body weight and blood sugar. Four weeks after the induction of diabetes, the differences became statistically significant. Electron microscopy also revealed disruption of the foot processes of the podocytes and other damages in diabetic group. These damages were significantly less severe in Hsian-tsao group when compared with the diabetic group. TSP-1 expressions in the kidney were significantly increased in both the diabetic group and Hsian-tsao group, but it was relatively lower in Hsian-tsao group than in diabetic group. **Conclusion** Our results showed that Hsian-tsao treatment in the diabetic rats effectively prevented the pathological alterations in the kidney and decreased the TSP-1 expression. It was suggested that Hsian-tsao had protective effect on the kidneys of the diabetic rats.

Key words: Rat; Mesona procumbens Hemsl.; Diabetic nephropathy; Thrombospondin-1

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