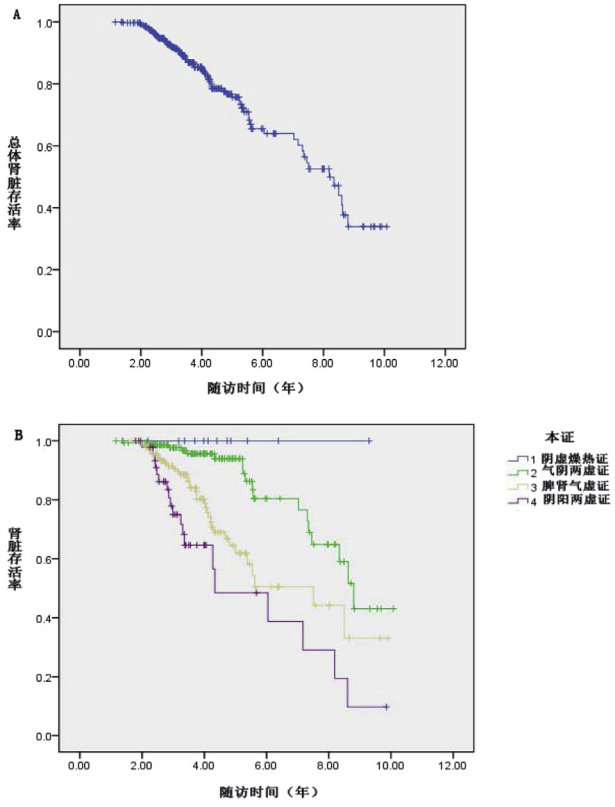
Methods: Bring into the DKD patients through pathological diagnosis which have more than one year disease course, to classify by the Tervaet criterion of pathological stage of DKD, to differentiate the syndrome differentiation in TCM by collecting clinical data, and have a statistical processing at last.
Results: We collected 353 DKD patients meeting the criterion in total, classified by the pathological stage criterion of DKD, among them there were 52 patients with phase I, 90 patients with phase IIa, 29 patients with phase IIb,141 patients with phase III, 41 patients with phase IV. About syndrome differentiation, there were 13 patients with Yin-Xu-Zao-Re type, there were 151 patients with Qi-Yin-Liang-Xu type, there were 140 patients with Pi-Shen-Qi-Xu type, there were 49 patients with Yin-Yang-Liang-Xu type, there were 19 patients with Han-Shi type, there were 68 patients with Shi-Re type, there were 212 patients with Yu-Xue type, there were 54 patients with Tan-Yu type. In the patients with Yin-Xu-Zao-Re type, the renal interstitial inflammation was more serious than other typs. In the patients with Pi-Shen-Qi-Xu type, the glomerular segmental sclerosis, nodular changes, and fibrinoid exudation were more serious than other groups. In the patients with Yu-Xue syndrome differentiation, interstitial fibrosis and tubular atrophy (IFTA), interstitial inflammation, hyaline degeneration, angiosclerosis, and fibrinoid exudation were more serious than other types significantly. Multivariate COX analysis showed that syndrome differentiation were independent risk factors for renal prognosis.
Conclusion: Among the syndrome differentiation of DKD, Qi-Yin-Liang-Xu type and Yu-Xue type were more frequently than other tyes. The result showed that syndrome differentiation was correlated significantly with pathological stage of DKD, Yin-Yang-Liang-Xu type and Tan-Yu type were independent risk factors for renal prognosis in DKD.



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0096

Renoprotective Effect of Berberine on Kidney Injury of Type 2 Diabetic Rat Model via Upregulating Smad7

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Objective: Diabetic nephropathy (DN) is one of the most severe microvascular complications of diabetes. Recently, Berberine (BBR) has the beneficial effects to diabetes. The aim of this study is to observe the renoprotective effect and mechanisms of berberine in a type 2 diabetes nephropathy on rat.
Methods: Twenty seven male Wistar rats (8-wk old, 200—250 g) randomly divided into 9 rats in normal control and 18 rats in diabetic groups. Diabetic rats were fed with a high-fat diet (consisting of 50% carbohydrate, 12% protein, and 38% fat) for 5 wk, followed by intraperitoneal injection with a single low-dose of streptozotocin (STZ, 25 mg/kg) after 12-h fasting. The normal control rats were fed with a standard chow diet. Diabetic rats were randomly divided into two subgroups: vehicle treated and BBR treated ($n = 9$ each). Rats were housed individually in metabolic cages for 24-h urinary collection at 4-wk intervals. Rats were sacrificed 20 weeks later. We detected the kidney weight index, 24 h urine protein, morphology study, inflammation and fibrosis markers, such as IκBα, TGFβ1, TβRI and Smad7 by realtime-PCR and Western Blot.
Results: (1) Compared with normal rats, the diabetic rats showed higher kidney weight index and 24h urine protein, berberine treatment decreased kidney weight index and 24 h urine protein. (2) BBR treatment inhibited histological injury including deposition of extracellular matrix, thickening of glomerular basement membrane, and tubular atrophy of DN rats. (3) DN rats showed decreased Smad7 mRNA and protein expression ($P < 0.01$), increased TGFβ1mRNA ($P < 0.05$) and TβRI protein expression ($P < 0.05$); however, BBR treatment down-regulated TGFβ1, TβRI level ($P < 0.05$), up-regulated Smad7, IκBα level ($P < 0.05$).
Conclusion: Berberine has renoprotective effect on a type 2 diabetic rat model. The mechanism might suppress inflammation and fibrosis via upregulating expression of Smad7.

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Effects of Tangshen Formula on Dihydropteridine Reductase Transcription

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Objectives: Tangshen Formula (TSF) is a Chinese herbal medicine used for DN treatment. In the current study, we aimed to identify the core regulatory region of QDPR gene promoter. We also studied whether the Tangshen Formula could up-regulate QDPR promoter activity in vitro study and to investigate the Tangshen Formula's mechanism at molecular level.
Results: Identification of core regulatory region in QDPR gene promoter: as compared with $-2092 \sim -1$ fragment, the relative fluorescence intensity of the deleted fragment $-529 \sim -116$ reduced to 1% ($P < 0.01$), the fragment which contained $-529 \sim -1$ kept 64% ($P < 0.05$). The relative fluorescence intensity of those deleted fragments $-529 \sim -429$, $-428 \sim -250$ and $-141 \sim -116$ were increased ($P < 0.01$), and the deleted fragment $-249 \sim -142$ was decreased ($P < 0.05$). QDPR gene promoter could be recognized as Tangshen Formula's drug targets: LDH experimental data showed that: the suitable Tangshen Formula's concentration in cell experiment were 800 g/ml or less. Results showed that: Tangshen Formula can improve QDPR gene promoter activity. Tangshen Formula can improve D5'/pGL3, D3/pGL3, D4/pGL3 three recombinant plasmids activity. But comparing with no drug treated group, drug treated group is no effect on D1-4/pGL3, D1/pGL3, D2/pGL3's activity ($P > 0.01$).
Conclusion: Rat QDPR core regulatory region might locate between -529 and -116 where existing putative negative and positive regulatory elements, especially, existing several Sp1 binding sites. There may be a potential Sp1 binding sites at $-141 \sim -116$ which could inhibit the transcriptional activity of the promoter.