

Effect of *Paidu Baoshen Wan* (排毒保肾丸) on TGF- β 1/Smad Signal Pathway of Nephridial Tissue in Renal Fibrosis Rats

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ABSTRACT **Objective** To observe effect of *Paidu Baoshen Wan* (PDBSW) on renal fibrosis of rats with 5/6 nephrectomy and to discuss the underlying mechanism. **Methods** Fifty SD rats were randomized into normal group, sham-operation group, model group, PDBSW group and *Niaoduoqing Granules* (尿毒清颗粒, NDQG) group, with 10 rats in each group. Excluding normal group and sham-operation group, the others received 5/6 nephrectomy to make renal fibrosis model. The PDBSW group and the NDQG group were respectively given PDBSW 1.0 g/ (kg · d) and NDQG 3.33 g/ (kg · d) by gavage, while the normal group, the sham-operation group and the model group were given normal saline 2 ml/d by gavage. Four weeks later, killed rats and collected remnant nephridial tissue to observe pathology stained by HE, PAS, PASM, Masson, and then to test expression level of protein and mRNA of transforming growth factor β 1 (TGF- β 1), Smad2 and Smad7. **Results** In the model group, topo-segmental glomerulus ischemic atrophy occurred, with much inflammatory cell infiltration and mild to moderate fibrosis. Compared with the model group, the degree of remnant nephridial lesion decreased in PDBSW group. Compared with the normal group and the sham-operation group, expression levels of protein and mRNA of TGF- β 1, Smad2 increased markedly in the model group, while those of Smad7 decreased markedly ($P < 0.01$). Compared with the model group, expression levels of protein and mRNA of TGF- β 1, Smad2 in the PDBSW group and the NDQG group decreased markedly, while those of Smad7 increased markedly ($P < 0.01$). **Conclusion** PDBSW may help resist renal fibrosis. These effects may be due to reducing expression of TGF- β 1 and Smad2, meanwhile increasing expression of Smad7 in nephridial tissue.

Keywords renal fibrosis; *Paidu Baoshen Wan* (排毒保肾丸); *Dahuang Zhechong Wan* (大黄廑虫丸); transforming growth factor β 1; Smad protein

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