To Observe the Curative Effect of Alprostadil Combined with Candesartan in the Treatment of Early Diabetic Nephropathy

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Objective: To observe the clinical curative effect of Alprostadil Injection combined with candesartan in the treatment of early diabetic nephropathy.

Methods: The 78 cases of early diabetic nephropathy patients were randomly divided into three groups: alprostadil group 26 cases, candesartan losartan group 26 cases, alprostadil combined with candesartan losartan group 26 cases, continuous medication for 2 weeks, the control of blood glucose, blood lipids and other treatment of each phase is same.

Results: Compared with before treatment, significantly reduced alprostadil group, the Candesartan group and combination group of urinary total protein and albumin, serum creatinine, blood urea nitrogen (P < 0.01); Comparison between groups, alprostadil group and candesartan group urine total protein and albumin, serum creatinine and blood urea nitrogen and alprostadil group and candesartan group were significantly reduced (P < 0.01).
Conclusion: Alprostadil group and candesartan group on early diabetic nephropathy treatment is effective, but the two combined with more significant effect.

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0197
Correlation Study of the Sharing Molecule of Endocytosis and Autophagy Rab7 and Matrix Metalloproteinase-2 (MMP-2) of Renal Tubular Epithelial Cells in Diabetic Nephropathy
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Objective: The aim of this research was to analyze the correlation between the sharing molecule of endocytosis and autophagy Rab7 and matrix metalloproteinase-2 (MMP-2) of paraffin sections of renal biopsy of patients with diabetic nephropathy, and then lay foundation for further study of the pathogenesis of diabetic nephropathy, thereby expected to bring new prospect for clinical treatment.

Methods: The renal biopsy specimens were obtained from 20 patients with diabetic nephropathy, and the tissues were fixed in 10% neutral buffered-formalin, paraffin-embedded, serial 3-um sections were prepared. Immunohistochemistry staining (IHC) and periodic acid-schiff staining (PAS) were combined to detect the expression of Rab7 and MMP-2. The pictures were obtained by special digital camera. And the average integral optical density was calculated by Image Pro Plus 6.0 (IPP). Besides, the degree of tubulointerstitial fibrosis was observed by standard light microscope and the thickness of the tubular basement membrane was measured by the software of IPP 6.0. Then the numerical value of the average integral optical density of Rab7 and MMP-2 was used to conduct the linear correlation analysis by SPSS 21.0.

Results: Every section was observed under the standard light microscope, the specific masculine brown-yellow color reaction was seen in the cytoplasm of some human renal proximal tubular cells. Besides, in some areas, tubular atrophy and basement membrane thickening and occurrence of fibrosis can be seen clearly because of the use of PAS staining. The correlation coefficient of Pearson (r) is 0.516. And the value of P is 0.004 (P < 0.05).

Conclusion: Our research revealed that in patients with diabetic nephropathy, there is association between Rab7 and MMP-2, that is to say, endocytosis and autophagy, connected to enzymes (herein referred to as MMP-2), involved in extracellular matrix (ECM) degradation, interact and participate in the progress of the change of tubular basement membrane thickness and tubulointerstitial fibrosis in diabetic nephropathy with proteinuria as the clinical feature.

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0189
Correlation of Serum IL-18, CysC, RBP and NGAL in Patients with Diabetic Nephropathy
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Objective: This paper observed the serum IL-18, CysC, RBP and NGAL in patients with DM to explore the relation between the four indicators and the occurrence and development of DN and compare with UAER, Scr, BUN. To define the sensitivity the four indicators for diagnosis of early DN, it could provide practical base and new ideas for the early diagnosis of clinical diseases.

Methods: We selected the patients 117 cases (57 cases of male, 60 cases were female), aged 30 ~ 87, the average age (54.67 ± 11.33) from March 2013 to October 2014 in our hospital. They were in accordance with the diagnostic criteria of DM patients with type 2 diabetes mellitus (T2DM) organization by the world health organization in 1999. We also chose 33 cases as control group, including 16 cases of male, female 17 cases, aged 26 to 87, average age (50.58 ± 16.01) from our hospital medical center at the same time, and without diabetes, hypertension, gomerulonephritis, and other metabolic diseases, and heart cerebrovascular disease.

Results: Serum IL-18, CysC, RBP, NGAL and BUN, Scr, UA and UAER were positively correlated, and there were no correlation with age, sex and BMI. DM groups of ROC curve showed that the four index about serum IL-18, CysC, RBP, NGAL were significantly higher than serum creatinine in diagnosis of sensitivity. Conclusion: (1) IL-18, CysC, RBP, NGAL were more reliable and sensitive than UAER in DN early diagnosis. UAER, Scr, BUN had not yet appeared, we should be to take early and effective prevention to DM patients. (2) The United detect IL-18, CysC, RBP, NGAL had higher diagnostic accuracy and sensitivity to DN, and helped the early detection of kidney damage of DM.

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0195
Protective Effects of Low-dose Rapamycin Combined with Valsartan on Podocytes of Diabetic Rats
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Objective: The aim of this study was to study the impacts and the mechanisms of low-dose rapamycin combined with valsartan on the renal functions of diabetic nephropathy (DN) rats.

Methods: Fifty SD rats were randomly divided into the normal control group (group A, n = 10) and the DN model group (n = 40), the DN model group was intraperitoneally injected streptozocin (STZ) for the modeling, which were then equally divided into the DN group (group B), the rapamycin group (group C, orally administrated rapamycin 1 mg/kg/d), the valsartan group (group D, orally administrated valsartan 30 mg/kg/d) and the combined therapy group (group E, orally administrated rapamycin 1 mg/kg/d + valsartan 30 mg/kg/d). Group A and group B were orally administrated the same amount of 0.5% carboxymethylcellulose. After 8-week treatment, the rats of each group were killed for the renal functional and pathological detection, as well as the expression detection of nephrin and podocin of kidney tissues.

Results: Compared with group A, the renal functions of the DN model groups were all decreased, and the pathological changes were significant. Meanwhile, the expressions of nephrin/podocin were reduced (P < 0.05); among which group B exhibited the most serious changes, while the situations of group E were improved after the combined treatment, the expressions of nephrin/podocin were increased.

Conclusion: Low-dose rapamycin and valsartan could enhance the expressions of nephrin and podocin, reduce kidney damages, thus achieving the protective effects towards the kidneys, and the effects of the combined therapy were superior to those of monotherapy.

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