

# 益气滋肾冲剂对 IgA 肾病小鼠肾小球超微结构的影响\*

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**内容提要** 目的:探讨益气滋肾冲剂(简称中药)对 IgA 肾病的治疗作用机理。方法:取小鼠 150 只,随机分为 5 组。各治疗组在造模的同时给予相应治疗药物,分别于第 3、6、9、12 周处死小鼠,用光镜、电镜观察各组小鼠肾小球病理变化及其超微结构。结果:模型组小鼠第 6、9、12 周时肾小球系膜细胞、系膜基质明显增生,肾小球光密度、系膜区面积、系膜细胞数密度、系膜基质光密度均呈显著增高;中药大、小剂量组和阳性药组小鼠病理程度较模型组轻。中药大剂量组的肾小球光密度、系膜细胞数密度、系膜基质光密度、系膜区面密度显著低于模型组( $P < 0.05$  或  $P < 0.01$ )。结论:益气滋肾冲剂能明显地抑制 IgA 肾病肾小球系膜细胞和系膜基质的增生。

**关键词** 益气滋肾冲剂 IgA 肾病 肾小球超微结构

Effect of Yiqi Zishen Granule on Ultrastructure of Glomeruli of IgA Nephropathy in Mice Nie Lifang, Yu Renhuan, Lin Xiubin, et al. Xiyuan Hospital, China Academy of TCM, Beijing (100091)

**Objective:** To study the effect and therapeutical mechanism of Yiqi Zishen granule (YQZSG) in treating IgA nephropathy. **Methods:** One hundred and fifty mice were divided into 5 groups randomly, in every treatment group, the relevant drugs were given. Their kidney tissues were observed with light microscope and electron microscope in batches at the 3th, 6th, 9th and 12th week. **Results:** The glomerular mesangial cells and mesangial matrix were proliferative in the model group at the 6th, 9th and 12th week. The light density of glomeruli, the mesangial area, the numeral density of mesangial cells and the light density of mesangial matrix in the model group were obviously higher, the change of large and small dosage YQZSG group and positive Chinese drug group were similar, but milder in pathological degree. The light density of glomerulus area, the mesangial area, the numeral density of mesangial cells and the light density of mesangial matrix in large dosage YQZSG group were significantly lower than those in the model group ( $P < 0.05$  or  $P < 0.01$ ). **Conclusion:** YQZSG could inhibit the proliferation of mesangial cells and the mesangial matrix in IgA nephropathy.

**Key words** Yiqi Zishen granule, IgA nephropathy, glomerulus ultrastructure

益气滋肾冲剂(简称中药)是我们多年来治疗 IgA 肾病的有效方药,临床研究证实该药对 IgA 肾病患者的血尿和蛋白尿具有较好的治疗效果。本研究用小鼠 IgA 肾病模型,观察益气滋肾冲剂对 IgA 肾病肾小球超微结构的影响,并探讨该药的作用机理。

## 材料与方法

### 1 材料

1.1 药物和试剂 益气滋肾冲剂由生黄芪、生地、太子参、当归、白芍、旱莲草、小蓟、金银花、丹参、芡实等药物组成,每克含生药 4.6g,西苑医院实验药厂生产,批号:961014。肾炎四味片由黄芪、黄芩、北京石

苇、细梗胡枝子组成,每片 0.36g,湖北省沙市制药厂生产,批号:941004。FITC-兔抗小鼠 IgA 抗体为美国 ZYMED 公司产品,批号:50525148RR(日本广岛大学医学部赠送);FITC-羊抗小鼠 IgG 抗体为军事医学科学院产品,批号:9606;FITC-兔抗小鼠 C<sub>3</sub> 抗体为 MBL 产品,批号:071(日本广岛大学医学部赠送);牛血清白蛋白(BSA)为德国 PROMEGA 公司产品,北京华美公司分装,批号:BP0024;其他试剂为国产分析纯。

1.2 动物及分组 健康雄性昆明种小鼠 150 只,体重 18~22g,购自北京医科大学实验动物中心,尿检蛋白和潜血全部为阴性,经 5 天适应性饲养后,随机分为 5 组,每组 30 只。正常组不作任何处理;模型组造模后给予 0.4~0.8ml 自来水灌胃;肾炎四味片组(简称阳性药组)给予肾炎四味片 3.6g/kg 体重灌胃;益气滋肾冲剂大剂量组(简称中药大组)给予益气滋肾冲剂

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