

论文

中性粒细胞明胶酶相关运载蛋白在过敏性紫癜患儿中的变化及其临床意义

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摘要:

目的 检测中性粒细胞明胶酶相关运载蛋白(NGAL)在过敏性紫癜(HSP)患儿肾组织中的表达及血清和尿中的水平,并评价其临床意义。方法 将81例HSP患儿按照尿白蛋白排泄率(UAER)分成正常白蛋白尿组(A组,n=38)、微量白蛋白尿组(B组,n=26)和大量白蛋白尿组(C组,n=17),并与健康对照儿童进行比较(D组,n=35),采用双抗体夹心ELISA方法检测4组儿童血清和尿NGAL;其中22例患儿于急性期行经皮肾穿刺活检(A组 5例,B组 9例,C组 8例)均行光镜和免疫荧光检查,采用免疫组织化学SABC法检测肾组织NGAL的表达。结果 与D组比较,A组和B组血清NGAL变化无意义($P>0.05$),C组血清NGAL显著增高($P<0.05$);各组HSP患儿尿NGAL水平均升高,且呈递增趋势($P<0.05$);肾组织病理形态学结果显示,22例患儿均表现为不同程度的系膜增殖,按ISKDC标准分型,A组: I级 1例、IIa 4例; B组: IIa 2、IIb 4例、IIIa 3例; C组: IIIa 2例、IIIb 6例。免疫组织化学检测结果显示,在正常的肾组织中仅有少量或无NGAL的表达,而在HSP患儿肾组织中均有明显表达,且A、B、C组呈递增趋势($P<0.05$);相关分析显示,尿NGAL与肾组织NGAL的表达呈正相关($r=0.604, P<0.05$)。结论 NGAL与HSP的发生发展有关。尿NGAL水平的检测对紫癜性肾炎的早期诊断具有重要价值,且对判断HSP肾脏受累的程度具有重要指导作用。

关键词: 中性粒细胞明胶酶相关运载蛋白;紫癜性肾炎;儿童;尿白蛋白排泄率

Changes and clinical significance of neutrophil gelatinase associated lipocalin in children with Henoch-Schnlein purpura

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Abstract:

Objective To examine the expression of neutrophil gelatinase associated lipocalin (NGAL) in the kidney tissue, serum and urine in children with Henoch-Schonlein purpura (HSP), and to elucidate its clinical value. Methods A total of 81 children with HSP were divided into three groups according to urinary albumin excretion rate (UAER): the normal albuminuria group (group A, n=38, UAER<20μg / min), the microalbuminuria group (group B, n=26, 20≤UAER≤200μg / min), and the macroalbuminuria group (group C, n=17, UAER>200μg / min). Healthy children served as the control group (group D, n=35). The levels of NGAL in the serum and urine were determined by ELISA. Renal biopsy was performed with immunohistochemistry in 22 patients: 5 from group A, 9 from group B, and 8 from group C. Results There was no significant difference in serum NGAL level in group A and group B compared with group D ($P>0.05$), but the serum NGAL level was significantly increased in group C($P<0.05$). The level of urinary NGAL was increased in group A, B and C in comparison with group D ($P<0.05$), and the increase of NGAL was correlated with the degree of albuminuria. The 22 biopsies showed typical morphological changes in Henoch-Schnlein purpura nephritis (HSPN). Furthermore, immunohistochemical staining showed that expression of NGAL in HSP patients were increased especially in group B and C, compared with that in the normal kidney group. Little NGAL expression was found in the normal kidney group. Correlation analysis revealed that the level of urinary NGAL was positively correlated with expression of NGAL in the kidney tissue($r=0.604, P<0.05$). Conclusion NGAL may contribute to renal injury in children with HSP. Examination of the urinary NGAL level may provide a new method for early diagnosis of HSPN.

Keywords: Neutrophil gelatinase associated lipocalin; Henoch-schnlein purpura nephritis; Children; Urinary albumin excretion rate

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