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病毒性肝炎患者血清可溶性细胞间粘附分子-1水平及意义

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提 要 目的: 探讨病毒性肝炎患者血清可溶性细胞间粘附分子-1(sICAM-1)水平与肝损害的关系。方法: 应用ELISA法检测了7例正常人和39例病毒性肝炎患者血清sICAM-1浓度。结果: 急性肝炎和慢性肝炎患者血清sICAM-1分别为975.93±322.51 ng/ml和833.08±490.59 ng/ml,均明显高于正常人(217.86±30.26 ng/ml)。急性肝炎患者血清sICAM-1水平与其血清ALT、AST和TSB均程明显正相关。重度慢性肝炎患者血清sICAM-1水平(1273.40±404.38 ng/ml)明显高于中度(613.89±128.91 ng/ml)和轻度(367.89±118.50 ng/ml)慢性肝炎。结论: 急、慢性病毒性肝炎患者血清sICAM-1均有不同程度升高,血清sICAM-1水平可作为反映病毒性肝炎患者肝损害程度的指标之一。

关键词 病毒性肝炎;细胞间粘附分子-1
中图法分类号 R512.6

正常人肝组织的肝细胞不表达细胞间粘附分子-1(Intercellular adhesion molecule-1, ICAM-1);而在病毒性肝炎等多种炎症性肝脏疾病,其肝细胞膜增强表达ICAM-1,其表达强度被认为是能反映其肝组织炎症损伤程度的较好指标,但这必须依靠免疫组化分析[1,2]。现已知许多自身免疫性疾病患者血清sICAM-1可以作为其病情观察的重要免疫学指标。本文拟在探讨病毒性肝炎患者血清sICAM-1水平,及其与患者病情、肝功能的关系。

1 材料与方法

1.1 研究对象

正常人7例,男4例,女3例,平均年龄33.7岁。病毒性肝炎患者39例,均为我院1996年2至10月的住院病人,男33例,女6例,平均年龄31.1岁;其中急性肝炎7例,轻度慢性肝炎9例,中度慢性肝炎9例,重度慢性肝炎14例,其诊断均符合《病毒性肝炎防治方案(1995年北京)》修订的标准。慢性肝炎中有22例经病理检查证实。

1.2 方法

1.2.1 血清sICAM-1用ELISA检测,由BoehRinger Mannheim公司提供试剂。

1.2.2 血清丙氨酸转氨酶(ALT)、门冬氨酸转氨酶(AST)和总胆红素(TSB)由检验科检测。

1.2.3 统计学处理 用t检验和相关分析。

2 结果

2.1 不同人群血清sICAM-1水平

急慢性肝炎患者血清sICAM-1水平均高于正常人,见表1

表1 病毒性肝炎患者血清sICAM-1水平(C_B/ng ml^{-1})

Tab 1 Serum Levels of sICAM-1 in patients with viral hepatitis (C_B/ng ml^{-1})

	n	sICAM-1(ng/ml)
Acute hepatitis	7	975.93±322.51*
Chronic hepatitis	32	833.08±490.59*
Healthy person	7	217.86±30.26

*: $P<0.01$ vs healthy person

2.2 急性肝炎患者血清sICAM-1水平与肝功能的相关性

急性病毒性肝炎患者血清sICAM-1水平与其血清ALT(相关系数$r=0.8591$, $P<0.05$)、AST($r=0.8520$, $P<0.05$)和TSB($r=0.7987$, $P<0.05$)均呈明显正相关。

2.3 慢性肝炎患者血清sICAM-1水平与肝损害程度的相关性

轻度慢性病毒性肝炎、中度慢性病毒性肝炎和重度慢性病毒性肝炎患者血清sICAM-1分别为367.89±118.50 ng/ml、613.89±128.91 ng/ml和1273.04±404.38 ng/ml,均明显高于正常人。重度慢性病毒性肝炎患雾血清sICAM-1水平显著高于中度、轻度慢性病毒性肝炎($P<0.01$);中度慢性病毒性肝炎患者血清sICAM-1水平也显著高于轻度慢性病毒性肝炎患者($P<0.01$)。急性肝炎患者血清sICAM-1水平显著高于轻度慢性肝炎患者($P<0.01$)。

3 讨论

本研究显示正常人血清中存在少量sICAM-1,其水平与国外学者报告的相似[3-5]。与正常人相比,急、

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慢性病毒性肝炎患者血清 sICAM-1水平均有不同程度升高。国外研究表明急性病毒性肝炎患者肝细胞膜 ICAM-1表达明显增强,其血清 sICAM-1水平也明显升高[3]。我们的结果显示急性病毒性肝炎患者血清 sICAM-1水平与其血清 ALT、AST和总胆红素均呈明显正相关,说明血清 sICAM-1水平能较好反映急性病毒性肝炎患者肝组织炎症程度及其肝功能受损程度,与国外的研究结果基本相似。

本研究显示重度慢性肝炎患者血清 sICAM-1水平明显高于中、轻度慢性肝炎患者,而且中度慢性肝炎患者血清 sICAM-1水平也比轻度慢性肝炎患者高,说明慢性病毒性肝炎患者血清 sICAM-1水平与其肝组织炎症和肝损害程度密切相关,血清 sICAM-1水平可作为反映慢性病毒性肝炎患者肝组织炎症和肝损害程度的指标,与 Zohrens等[4]报告的结果相似。

IL-1、TNFα和γ-干扰素等细胞因子能诱导肝细胞膜 ICAM-1增强表达,并分泌 sICAM-1[6,7]。国外研究表明炎症性肝病患者血清中的 sICAM-1至少有三个来源[4-7]:① 肝细胞合成释放 sICAM-1;② 由膜型 ICAM-1裂解脱落而来;③ 细胞死亡后细胞膜碎裂溶解后产生。本组肝炎患者血清中 sICAM-1水平均有不同程度升高,其中急性肝炎和重度慢性肝炎患者升高尤为显著。在急性肝炎和轻度慢性肝炎,患者肝细胞坏死并不明显,但急性肝炎患者肝组织炎细胞浸润较轻度慢性肝炎明显,肝组织中的炎性细胞释放的细胞因子能刺激肝细胞分泌 sICAM-1入血,因此急性肝炎患者血清 sICAM-1水平明显高于轻度慢性肝炎。重度慢性肝炎患者肝细胞 ICAM-1表达明显增强,其肝细胞坏死也很明显,坏死肝细胞膜脱落的 ICAM-1可能是重度慢性肝炎患者血清中 sICAM-1的重要来源。

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Serum concentration of soluble intercellular adhesion molecule-1 in patients with viral hepatitis and its clinical significance

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Abstract Objective: To investigate the relationship between the serum concentration of soluble intercellular adhesion molecule-1 (sICAM-1) and hepatocytic damage in patients with viral hepatitis. Methods: The serum concentration of sICAM-1 was determined with enzyme-linked immunosorbent assay in 7 healthy individuals and 39 patients with viral hepatitis. Results: The serum concentration of sICAM-1 was significantly higher in patients with acute hepatitis (AH) and those with chronic hepatitis (CH) than in the healthy individuals. Significantly positive correlation among the serum concentrations of sICAM-1, alanine aminotransferase, aspertate aminotransferase and total bilirubin was found in patients with AH. Serum concentration of sICAM-1 was significantly higher in patients with severe CH than in those with moderate or mild CH. Conclusion: The serum concentration of sICAM-1 is significantly increased in patients with AH or CH and may reflect the degree of hepatocytic damage in patients with viral hepatitis.

Key words viral hepatitis; ICAM-1

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