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Role of interleukin-6 in catabolism of skeletal muscle protein in the early stage after scalding in mice

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Abstract Objective: To observe the dynamic changes of interleukin-6 (IL-6) and its effects on catabolism of the skeletal muscle protein in the early stage after scalding. Methods: After a model of Balb/C mice inflicted with 18% ~ 20% TBSA full-thickness skin scald on the back and one hindleg was established, the protein catabolic rate (TNR) and the level of IL-6 in soleus muscle and serum were determined and the effects of IL-6 on TNR of normal mice and those of IL-6 antiserum on TNR of the scalded mice were observed during the first week after scalding. Results: The level of IL-6 was significantly increased and maintained during the first three days. TNR of the scalded leg was elevated to the peak on the 3rd day and then decreased gradually while that of the unscalded leg was increased only on the 2nd day after scalding. TNR was significantly increased when IL-6 was injected to the normal mice and IL-6 antiserum could significantly inhibit the increased TNR of the scalded mice when it was injected intraperitoneally. Conclusion: The increase of IL-6 is related with local inflammatory response in the early stage after scalding and the high level of IL-6 can increase the catabolic rate of muscle protein.

Key words interleukin-6; tyrosine net release; scalding; soleus muscle; mouse

科研简报

庚型肝炎病毒感染者肝组织中庚型肝炎病毒相关抗原的表达

The expression of hepatitis G virus-related antigens in the liver tissues of patients with HGV/GBV-C infection

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庚型肝炎病毒(HGV)、GB病毒C型(GBV-C)是新近发现的一种正链RNA病毒,属黄病毒家族成员之一,现认为HGV、GBV-C为同一病毒的不同分离株。由于对此病毒的基因克隆成功,研究进展迅速,但均限于血清学抗体及病毒核酸的检测,对其感染者肝组织中病毒相关抗原表达的研究,尚未见报道。我们对12例非甲~戊型肝炎患者经血清学证实(抗HGV阳性、HGV RNA阳性)为HGV/GBV-C感染,经肝穿获取肝组织,应用免疫组化方法,以鼠抗HGV NS5单克隆抗体(由解放军三〇二医院免疫研究室程云主任惠赠)进行检测。单抗工作效价1:200。对照实验包括:① 省略一抗和二抗;② 以免疫前鼠IgG替代特异性抗体;③ 特异性抗体预先经抗原吸收;④ 以2例肝血管瘤患者及2例正常人肝组织作为对照。

结果:8例(66.67%)患者肝组织中检出HGV抗原,阳性信号位于胞浆中,阳性细胞可成散在、簇状或弥散性分布。阳性细胞周围可无明显炎性浸润及坏死,阳性表达的肝细胞也可位于坏死灶中或灶旁,碎屑坏死处可见HGV抗原表达。对照实验结果表明省略一抗和二抗后阳性信号消失,正常鼠IgG替代单抗结果呈阴性,特异性抗体经抗原吸收后再用于检测肝组织抗原,阳性信号明显受到抑制,2例肝血管瘤及2例正常人肝组织检测均阴性。

目前有关文献报道大多数HGV/GBV-C感染体内常有两种或两种以上肝炎病毒重叠感染,并认为HGV/GBV-C感染对原有HBV或HCV感染的基础病变无明显影响,而且HGV感染的动物模型肝组织病变也不明显。因此,对HGV/GBV-C的致病性产生怀疑,或认为HGV/GBV-C慢性感染的临床意义不大。本组病人均为单一HGV感染,不仅检测阳性率较高,而且对HGV感染的免疫病理可进行探讨。我们的初步研究结果表明HGV可在急、慢性肝炎患者肝组织中表达而且表达部位可见炎性坏死,提示HGV在肝炎肝损伤过程中可能有一定作用,其确切致病机理有待进一步研究。有关其它肝病患者肝组织中HGV/GBV-C抗原表达的研究尚在进行中。

关键词 庚型肝炎病毒; GB病毒C型; 单克隆抗体; 免疫组织化学

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