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Effects of burn patient sera on cultured endothelial cells of human umbilical vein*

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Abstract The systemic pathophysiological changes in the early stage postburn are closely related to the activation and damages of vascular endothelial cells (VECs). In order to study the effects of humoral substances on VECs, the sera of 2 groups of burn patients (with burn area of 30% ~ 50% and 70% ~ 90% TBSA respectively) were added to the cultured VECs of human umbilical vein. The content of lactic dehydrogenase (LDH), prostacyclin (PGI_2) and nitric oxide (NO) in the culture fluid was determined. In addition, the content of F-actin in VECs was measured and that of endothelin-1 (ET-1) was semiquantitatively measured with spot hybridization. It was found that ET-1 mRNA was increased 3-fold in the 1st h after the addition of burn sera and this increase was maintained to the 12th h. In the 12th h, the damages of VECs were quite prominent showing elevation of LDH ($P < 0.01$), increased production of PGI_2 ($P < 0.05$) and significant decrease of F-actin ($P < 0.01$). The VECs became round in shape and shrunken. These findings indicate that burn sera stimulated ET-1 expression of VECs first, followed by increased synthesis of NO to maintain vascular tone and then damages of VECs occurred in the 12th h, which suggests that the effects of burn sera on VECs proceed through a course from activation to damage.

Key words vascular endothelial cell; burn serum; nitric oxide

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科研简报

重庆市庚型肝炎病毒(HGV)感染的初步观察

Preliminary observation on hepatitis G virus (HGV) infection in Chongqing

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采用酶联免疫法(ELISA)检测 58例病毒性肝炎患者血清中甲、乙、丙、丁、戊、庚 6种肝炎病毒的感染标志,并用聚合酶链反应(PCR)技术检测其血清中的 HBV DNA和 HCV RNA 58例肝炎患者血清抗-HGV阳性率为 12.1%,其中急性非甲-戊型肝炎患者血清抗-HGV阳性率为 25%,慢性重型肝炎患者血清抗-HGV阳性率为 26.3%、明显高于慢性肝炎(2.9%, $P < 0.05$);在 7例抗-HGV阳性者中,有 4例(57.1%)是与 HBV重叠感染;非甲-戊型肝炎患者血清抗-HGV阳性率为 30.0%, HBsAg阳性肝炎患者血清抗-HGV阳性率为 8.3%; HBsAg阳性的慢性重型肝炎和慢性肝炎患者血清抗-HGV阳性率分别为 17.6%和 3.1%;抗-HGV阳性重型肝炎患者的病死率为 100.0% (5/5),单纯 HBV感染者的病死率仅为 36.4% (4/11)。结果表明:重庆市存在 HGV感染; HGV感染是非甲-戊型肝炎患者的重要病因,并在重型肝炎中起重要作用; HGV可与 HBV重叠感染,重叠感染者可能更易发生重型肝炎,重叠感染所致重型肝炎患者的预后可能更差。

关键词 病毒性肝炎;庚型肝炎病毒

中图法分类号 R512.6

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