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Effects of high-velocity projectile-induced fluid disturbance and post-traumatic serum on vascular endothelial cells

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Abstract The effects of temporary disturbance induced by high-velocity projectiles and post-traumatic serum of pigs on the vascular endothelial cells (VECs) of swine aorta were observed with a simulating circulatory apparatus on rat model serving to observe the remote effects. It was found that the temporary fluid disturbance due to high-velocity projectiles resulted in a disruption and shrinkage of the vascular membrane, focal loosening of the cytoplasm, edema, increase of the vacuoles in number in the cytoplasm, dissociated organelles with a decrease in their number, an obvious decrease of the synthesis and release of 6-keto-PGF1a by VECs and a marked increase of ACE, ET and ⅧR:Ag. Similar structural and functional changes of VECs were induced by the post-traumatic serum 4 and 6 h after wounding. These findings suggest that the vascular endothelium of distant organs and tissues can be damaged by the violent temporary fluid disturbance when the body is subjected to a high-velocity projectile injury and the changes of neuro-humoral factors after wounding further aggravate the damages to the VECs to lay down the pathomorphological and pathophysiological basis of gun-shot injuries.

Key words high-velocity projectile; fluid disturbance; serum/post-traumatic; vascular endothelial cell; pig

尿毒性脑病致癫痫持续状态救治成功一例

Rescuing a case of continuous convulsion caused by uremic encephalopathy

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我科1990年以来收治尿毒症患者303例, 6例发生尿毒性脑病癫痫样抽搐, 5例为一过性, 一例呈持续状态长达12 d,较为罕见,特报道如下。

患者男性, 40岁, 因肾衰7年, 移植肾切除术后18 d,合并球菌性肺炎、消化道和皮下广泛出血、肠道菌群失调、重度营养不良、褥疮、低白细胞血症,于1995年7月8日由泌尿外科转入我科。转科后给予腹膜透析、抗炎、升白细胞、止血等综合治疗4 d,患者出血停止,一般情况好转。7月13日,患者突然出现频繁的四肢强直性抽搐,抽搐时牙关紧闭,眼球上翻,双眼球水平震颤,每次抽搐持续30 s至1 min,间隔时间最短为2 min,抽搐时心率增速,未发现心律失常,抽搐间歇期血压最高达28/16 kPa,无神经系统定位体征。既往无类似发作史。静脉注射安定40 mg不能中止抽搐发作,静脉注射苯妥因钠0.5 g能使发作频率稍减少。眼底、脑CT、腰穿无异常发现,血钙正常,血培养阴性, 1 d后进入浅昏迷状态,抽搐不减,并出现大量黑便。考虑为尿毒性脑病、消化道应激性溃疡出血。遂增加腹透液交换量至12000 ml/d,并给予积极降压、镇静、止血、输血、支持等综合治疗。7月25日抽搐停止,神志转清。此后,患者出血停止,腹部伤口和褥疮愈合,食欲佳,体重由39 kg增至51 kg,住院93 d出院行家庭腹透,随访半年,生活能自理。

尿毒性脑病癫痫样抽搐是由于脑细胞在尿毒性物质的作用下出现癫痫样放电所致,也有人报道与过量应用头孢类抗菌素或血压过高有关[1-3]。对其治疗应重点抓住透析这一关键环节,同时兼顾降压、营养支持等治疗,停用可能与抽搐有关的抗菌素,而不宜片面依赖镇静药物。本例癫痫样抽搐持续状态长达12 d之久,全身一般情况极差,经积极治疗仍获痊愈,提示只要治疗得当,尿毒性脑病癫痫样抽搐持续状态仍然预后较好。

关键词 尿毒性;癫痫

中图法分类号 R695.9; R742.1

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