

论文

脑缺血再灌注后大鼠氧化水平和神经功能损伤及异丙酚的影响

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摘要:

目的 观测大鼠脑缺血再灌注后神经损伤及血清氧化水平的变化及异丙酚的影响。方法 采用大脑中动脉线栓法制备大鼠脑缺血再灌注模型, 88只大鼠随机分为假手术组 (n=8)、缺血再灌注模型组 (n=40) 和异丙酚(100?mg/kg)干预组 (n=40)。分别于再灌注6、24h, 2、4、7?d对大鼠进行神经功能损伤评分, 并行梗死灶的观察及分光光度法对血清超氧化物歧化酶 (SOD)、丙二醛 (MDA) 的检测。结果 与模型组比较, 异丙酚干预组大鼠缺血再灌注后的神经功能损伤评分低, 24h、2d差异有统计学意义(P<0.05); 梗死灶面积减小, MDA降低, SOD的活性升高(P<0.05)。结论 异丙酚能明显提高SOD的活性, 减少MDA的积聚, 缩小脑梗死体积, 改善脑缺血再灌注损伤后神经损伤

关键词: 异丙酚; 脑缺血再灌注损伤; 抗氧化; 神经功能损伤评分; 模型; 动物

Oxidation and neurological injury in cerebral ischemia reperfusion rates and the effect of propofol

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Abstract:

Objective To study serum oxidation level andneurological injury in cerebral ischemia reperfusion rats and the influences of propofol on them. Methods Eighty-eight rats were randomly divided into three groups: the sham operation group (n=8) , the cerebral ischemia reperfusion model group(n=40) and the propofol(100?mg/kg) group(n=40). Cerebral ischemia reperfusion models were established inSDrats by middle cerebral artery occlusion (MCAO) according to the advanced Zea Longa' s method. The neurological deficit score of the rats,infarct area of the brain and levels of SOD and MDA in serum were measured with absorption spectrometry at 6h, 24h, 2d, 4d and 7?d after reperfusion.Results Compared with the model group, the propofol group decreased in the infarct area of the brain. The neurological function deficit score at 24?h or 2?d after reperfusion was also significantly lower(P<0.05) in the propofol group. At the same time, the serum MDA level decreased while SOD activity increased in the propofol group(P<0.05). Conclusions MDA increases while SOD activity decreases after cerebral ischemia reperfusion. Propofol can effectively suppress the production of lipid peroxidation and MDA, facilitate the production of SOD and decrease the infarct area of the brain,so it reduces neurological injury induced by ischemia and reperfusion.

Keywords: Propofol; Cerebral ischemia and reperfusion injury; Antioxidant; Neurological function deficit score; Model; Animal

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