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论著

L-精氨酸对兔右冠状动脉缺血再灌注所致心律失常的影响

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摘要 目的：观察右冠状动脉缺血再灌注（IR）致心律失常的演变及L-Arg的干预效果。方法: 采用在体兔右冠状动脉缺血再灌注模型, 48只兔分为4组: IRa组（缺血30 min再灌注120 min）, IRb组（缺血120 min再灌注120 min）, IRa+L-Arg组, IRb+L-Arg组; 每组12只。记录心电图，计算心律失常评分及与时间依赖关系并分析L-Arg干预效果。结果: ① 随右冠状动脉结扎时间延长, 各组心律失常分数逐渐呈上升趋势，出现不同程度的房室传导阻滞、窦性及房性心律失常并逐渐加重; ② 再灌注期: 房室传导阻滞发生次数减少，且由Ⅲ度→Ⅱ度→Ⅰ度→正常，窦性和房性心律失常逐渐恢复窦性心律; IRa组心律失常评分显著低于IRb组相同再灌注时段(P<0.01); ③ IRa+L-Arg组和IRb+L-Arg组再灌注心律失常分数分别明显低于IRa和IRb组相同再灌注时段(P<0.01); ④ IRa+L-Arg组心律失常评分明显低于IRb+L-Arg组（P<0.01）。结论： 补充适量的L-Arg具有抗因右冠状动脉缺血所致的心律失常作用；缺血期时间越长，L-Arg抗再灌注心律失常作用越差。

关键词 缺血； 再灌注 心律失常 精氨酸 冠状血管 兔

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Effect of L-arginine on arrhythmia induced by ischemia/reperfusion of right coronary artery in rabbits

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Abstract

<FONT face=Verdana>AIM: To explore the effect of L-arginine (L-Arg) on the arrhythmia induced by ischemia/reperfusion (IR) of the right coronary artery in rabbits. METHODS: 48 healthy adult rabbits were divided into 4 groups (n=12 of each) randomly: IRa group (120 min reperfusion after 30 min ischemia), IRb group (120 min reperfusion after 120 min ischemia), IRa+L-Arg group and IRb+L-Arg group. I/R model was established by occluding and loosening the root of the right coronary artery in rabbits. The changes of ECG and arrhythmia were recorded and graded. RESULTS: ① The longer time of IR was, the higher the score of the arrhythmia was found. The incidence of atrial-ventricular block (AVB), sinus-atrial block (SAB), even sinus arrest were detected and aggravated gradually. ② The incidence of AVB was decreased and from Ⅲ°→Ⅱ°→Ⅰ° markedly, some of sinus and atrial arrhythmia were transformed into sinus rhythm gradually, and all of the arrhythmia scores in IRa group were decreased significantly as compared with the same time phases of IRb group (P<0.01). ③ All of the arrhythmia scores in IRa+L-Arg and IRb+L-Arg groups were decreased dramatically as compared with that in IRa and IRb groups at the same time phases (P<0.01). ④ All of the arrhythmia scores in IRa+L-Arg group were lower compared with those in IRb+L-Arg group (P<0.01). CONCLUSION: Supplying appropriate L-arginine to the tissue is beneficial for inhibiting arrhythmia during ischemia and reperfusion, and the longer the time of ischemia is, the weaker the effect of L-arginine on the arrhythmia presented during the period of reperfusion.</FONT>

Key words Ischemia Reperfusion Arrhythmia Arginine Coronary vessels Rabbits

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