

# 心脏对异丙肾上腺素反应性与心搏间期近似熵的关系

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在正常新西兰兔测得心搏间期近似熵较大,阿托品阻断后心搏间期近似熵下降的基础上,观察兔心脏在上述两种状态下对异丙肾上腺素反应的差距。结果显示:在正常时,心脏对0.2 $\mu\text{g}/\text{kg}$ , 0.4 $\mu\text{g}/\text{kg}$ , 0.6 $\mu\text{g}/\text{kg}$ 异丙肾上腺素的反应性均强于应用阿托品后,并有显著差异 $P<0.05$ ;待阿托品作用部分消除后,心脏对异丙肾上腺素的反应性也部分恢复。表明心搏间期复杂性越大对异丙肾上腺素反应越敏感,支持“非周期敏感”是可兴奋细胞、组织或器官基本反应特征的假说。

## RELATIONSHIP BETWEEN THE SENSITIVITY TO ISOPRENALINE AND THE APPROXIMATE ENTROPY OF R-R INTERVAL

In order to study the relationship between the sensitivity of heart to isoprenaline and the Approximate Entropy(ApEn) of heart rate variability, ApEn of RRI (RR interval) in different conditions were analyzed. The results showed that when atropine was used, the ApEn of RRI were decreased and that the responses to 0.2  $\mu\text{g}/\text{kg}$ , 0.4  $\mu\text{g}/\text{kg}$ , 0.6  $\mu\text{g}/\text{kg}$  of isoprenaline were greater in normal condition than in condition atropine being used. The difference between them was statistically significant( $P<0.05$ ). When the effect of atropine partly disappeared, the response to isoprenaline recovered to some degree. It is concluded that the larger complexity of RRI, the greater response to isoprenaline. The hypothesis that nonperiodic firings in excitable cells, tissue or organ have greater sensitivity to stimuli than periodic firings activity does is further confirmed.

### 关键词

敏感性(Sensitivity); 异丙肾上腺素(Isoprenaline); 近似熵(ApEn); 心搏间期(RRI)