

论著

右心室快速起搏致心力衰竭犬的心室电生理特性

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摘要 目的: 研究右心室快速起搏致充血性心力衰竭(CHF)犬心室电生理特性。方法: 16只犬随机分为正常对照组(n=7)和CHF组(n=9),应用右心室快速起搏(240 pulse·min⁻¹)4-5周制作CHF犬模型,应用心脏电刺激和单相动作电位(MAP)记录技术测定心室生理指标。结果: (1) CHF组心室有效不应期、心室MAP时程、复极后期及传导时间均延长,分别延长26%(P<0.01)、43%(P<0.01)、318%(P<0.05)和19%(P<0.01); (2) CHF组心室有效不应期与MAP时程的比值减小13%(P<0.05); (3) CHF组兴奋恢复时间离散性增加185%(P<0.01); (4) CHF组室颤阈值降低48%(P<0.01)。结论: CHF异常的心室电生理特性可能是导致恶性心律失常及心脏性猝死发生的基础。

关键词 [心力衰竭,充血性](#) [电生理学](#) [动作电位](#) [心室颤动](#) [血流动力学](#)

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Characteristics of ventricular electrophysiology in a right ventricular rapid pacing-induced canine heart failure model

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Abstract

AIM: To research the characteristics of ventricular electrophysiology in right ventricular rapid pacing-induced congestive heart failure (CHF) dogs.
METHODS: Dogs (n=16) were randomly divided into 2 groups: the control (n=7) and the CHF group (n=9) induced by rapid right ventricular pacing at 240 pulse·min⁻¹ for 4 to 5 weeks.The electrophysiologic parameters were evaluated by the technique of standard electric stimulation and monophasic action potential (MAP) recording.
RESULTS: (1) Ventricular effective refractory period (VERP),ventricular MAP duration (MAPD 90),ventricular late repolarization duration (VLRD) and intra-ventricular conduction time (IVCT) were prolonged by 26% (P<0.01),43% (P<0.01),318% (P<0.05),and 19% (P<0.01),respectively in CHF group.(2)The ratio of VERP to MAPD₉₀ (VERP/MAPD₉₀) was decreased by 13% (P<0.05) in CHF group.(3) The dispersion of ventricular recovery time (VRT-D) was increased by 185% (P<0.01) in CHF group.(4) The ventricular fibrillation threshold (VFT) was decreased by 48% (P<0.01) in CHF group.
CONCLUSION: The abnormal electrophysiological changes in the CHF condition may be contributing factors of lethal ventricular arrhythmias and sudden cardiac deaths in CHF.

Key words [Heart failure](#) [congestive](#) [Electrophysiology](#) [Action potentials](#) [Ventricular fibrillation](#) [Hemodynamics](#)

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