

• 研究报告 •

植入式心律转复除颤器治疗室性心律失常的疗效分析

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[关键词] 植入式心律转复除颤器;室性心律失常;电击;抗心动过速起搏

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Evaluation of antiarrhythmic effect in the patients with implantable cardioverter defibrillatorHE Ran^{1,2} QIU Chunguang¹ SONG Hongxing² CHEN Xiaojie¹ ZHANG Jie²
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Summary Since 2008, 42 patients were implanted ICD in our hospital. Of them, 34 patients were followed up (20 male, 62.5%), including 9 single chamber ICD, 1 double chamber ICD and 25 CRT-D (one replaced). There were 1 726 ventricular tachycardia (VT) episodes detected (510 VT-treated and 1 216 VT-monitored episodes), moreover, 99 fast ventricular tachycardia (FVT) and 33 ventricular fibrillation (VF). The 589 VT/FVT were treated by anti-tachycardia pacing (ATP), among them, 387 (65.7%) were successfully stopped and 12 episodes (2%) were got worse after ATP. The 18 VT/FVT episodes were treated by low-energy converting and 8 (44.4%) were stopped. Of VF episodes, 3 inappropriate detection were aborted after charging, 15 episodes were inappropriate discharged (3 patients, 8.8%), 1 episode was stopped by ATP, 17 episodes were treated by high-energy defibrillate and 15 (88.2%) were successfully stopped.

Key words implantable cardioverter defibrillator; ventricular arrhythmias; shock; anti-tachycardia pacing

植入式心律转复除颤器(implantable cardioverter defibrillator, ICD)的问世及发展改变了心源性猝死患者的命运,随着ICD技术改进及程控参数的多元化,其应用更为普及。ICD是治疗心血管疾病的利器,已成为心脏科医生防治恶性心律失常的重要手段。本文回顾了近5年来植入的42例ICD患者临床资料,旨在探讨ICD治疗室性心律失常的效果。

1 对象与方法

1.1 对象

自2008年7月以来,郑州大学第一附属医院及河南弘大心血管病医院对42例符合ICD相关指南及建议的I类或IIa类适应证标准的患者植入43台(更换1台)ICD或CRT-D^[1-2]。其中扩张型心肌病24例,缺血性心肌病11例,特发性心室颤动(VF)、室性心动过速(VT)3例,长Q-T综合征2例,左室致密化不全1例,主动脉瓣置换术后1例。一级预防16例,二级预防26例。心力衰竭(心衰)

患者术前均给予充分抗心衰治疗,二级预防患者均给予抗心律失常治疗。

1.2 植入方法

左锁骨下静脉穿刺后在左胸前筋膜层分离出脉冲发生器囊袋,单腔ICD送除颤电极至右心室心尖部,双腔ICD再送右房电极至右心耳,CRT-D还需将左室电极送至心脏侧静脉或侧后静脉或前侧静脉,各导线阈值测试满意连接脉冲发生器并植入囊袋中,缝线固定ICD后逐层缝合皮肤。

1.3 器械选用及程控

选用美敦力公司2台Maximo II D284TPK,21台InSync Maximo 7304,1台Marquis DR7274,10台Maximo VR 7232,7台Marquis VR 7230Cx,圣犹达公司2台promote TM 3107-36。ICD术前程控关闭VT/VF的监测及治疗功能,ICD术后采用分层治疗的原则进行程控,多数采用默认值,有特殊情况时适当调整参数,若合并心房颤动(房颤)快室率反应且心率较规整者,稳定性参数设置可以适当降低,若基础窦律较快,突发性参数设置也可以适当降低。

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1.4 随访

常规术后即刻、出院前、术后1、3、6、12、18、24、36、48个月各随访1次,若发生电击事件或出现心脏不适症状随时来访。随访时通过程控仪调取EGM资料,每次有2名以上医师完成随访内容并留取程控仪中记录的所有资料,判断心律失常识别的正确性和治疗的有效性,必要时个体化调整相应的诊断和治疗方案,重要事件发生、重要参数改变向专业组负责人汇报。

2 结果

2.1 一般情况

34例患者完成随访,男21例,女13例,平均年龄(60.5±12.8)岁,其中单腔ICD 9台,双腔ICD 1台,CRT-D 25台(更换1台),平均随访(18.5±11.7)个月;2例术前行导管消融术;2例行除颤阈值测定(DFT)均为20J,余未常规进行;死亡5例,死因均为非心律失常事件;失访8例。

2.2 事件分析

ICD共检测到VT 1726次(含VT-monitored 1216次),FVT 99次,抗心动过速起搏(anti-tachycardia pacing, ATP)治疗589次,成功387次,转复成功率65.7%,ATP后心律失常恶化12次(2%);低能量电转复(cardioversion, CV)治疗18次,成功8次,成功率44.4%;检测到VF 33次,3次误识别事件充电后放弃,15次为误放电事件(3例,8.8%),1次ATP成功终止,高能量除颤(defibrillation, DF)治疗17次,成功15次,成功率88.2%。

3 讨论

ICD作为临幊上室性快速心律失常患者的首选治疗,已在多个大规模多中心临幊试验中得到证实^[3-4]。ICD分层治疗包括ATP、CV及DF。ATP即ICD的无痛性治疗,是ICD以快于心动过速的频率(通常快20~30次/min)发放心室刺激终止心动过速,恰当的ATP设置可以有效终止心动过速,减少不必要的电击治疗。ICD发展史上的两个里程碑式临幊研究PainFree Rx I及PainFree Rx II显示:冠心病人群ATP能有效终止90%~92%的慢室性心动过速(室速)及77%~89%的快室速,ATP治疗组较电击组减少70%以上的除颤放电^[5-6]。华伟等报道1组单中心ATP的成功率为66.6%^[7],文中分析成功率较低的原因:冠心病合并室速折返机制占主导,对ATP反应好,非缺血性心肌病折返机制不占主导,对ATP反应差,冠心病所占比例低影响了ATP的效率。本组的VT/VF事件主要来自两例电风暴患者,以慢室速为主,有时呈现无休止发作状态,ATP效果欠佳,影响了ATP总

有效率,本组成功率仅65.7%。当然,我们在临幊工作中对无痛性治疗的执行力度也是不够充分的,1例患者发作慢室速,ATP治疗无效而行多次电击治疗,ATP由3组增至5组,多种刺激模式联用,阵内脉冲增加,辅以药物治疗,VT发作减少而且ATP有效,另有3例患者发作频率在190~200次/min,FVT区关闭或设置ATP不足,发生放电事件,FVT开启并增强ATP治疗,辅以药物治疗,均未再发生放电事件。由此可见,ATP的使用及有效率还是有较大的提升空间。

诸多文献报道ICD电击治疗的成功率几乎是100%,但本组患者CV、DF成功率偏低,尤其是CV成功率更低,与3例患者的放电无效有关。1例反复VT致电风暴患者出现2次CV(10J)无效加大能量(20~35J)成功终止,1例经左上腔植入的单腔ICD患者发生3次FVT、4次CV及2次DF(10~30J)均失败,其上腔线圈位于低位右房,怀疑电击时电流所通过的心肌数目及面积相对较少影响了电击效果,经延长VT识别间期、提高VF识别频率、加强ATP治疗、改变电击极性及加量应用美托洛尔等处理,随访1年余未再放电;另1例因冠心病植入双腔ICD患者发生3次VT后6次CV(10~30J)无效,分析可能与除颤阈值较高或者室速为自律性对ATP及放电效果欠佳有关,经加强ATP及药物治疗后未再放电。当然,成功率低更有可能是样本量小抽样误差所致。

15次误放电事件发生在3例患者中。1例ICD患者因右室感知阈值低下、T波过感知而发生11次放电,在保证患者安全前提下延长VT/VF识别间期、降低电极感知灵敏度(感知设置0.3mV→0.45mV→0.6mV→0.9mV,期间行DFT确定ICD的识别及治疗功能正常)等处理后,随访1年半无事件记录;1例CRT-D患者因右室电极脱位致P、R双计数,误识别为VF3次并予放电治疗,经再次手术复位后无类似事件;1例CRT-D患者因电疗时放电1次。本组误放电发生率8.8%,低于国内外文献报道的22%~24%^[8-9]。文献报道的是早年资料,有的还包含误识别事件,本组为近年病例,多数为CRT-D患者,其心律失常鉴别诊断功能比较完善,提高了诊断准确率。

ICD术后优化药物及程控治疗是心律失常防治之基石,可有效降低放电及误放电的可能;电击是确保患者生命安全之根本,应高度重视治疗无效病例,必要时可更换为能提供更大电击能量的ICD或增加皮下片状电极等以保证患者安全。

冠心病患者血浆白细胞介素-35 水平及临床意义的探讨

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[关键词] 冠心病;白细胞介素-35;高敏 C 反应蛋白;N 末端脑钠肽前体;动脉粥样硬化

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The plasma IL-35 levels in patients with coronary heart disease and its clinical significance

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Summary This study was designed to observe the change of the plasma IL-35 levels in patients with different type of coronary heart disease (CHD) and analyzed its correlation with coronary gensini score, high-sensitive C-reactive protein (hs-CRP) and NT-proBNP. The results showed that plasma IL-35 levels were significantly decreased in the SAP group, the UAP group, and the AMI group compared with the patients in control group [(95.71±4.05) vs (111.44±4.57), P<0.001; (45.00±3.18) vs (111.44±4.57), P<0.001; (28.25±3.19) vs (111.44±4.57), P<0.001, respectively]. Furthermore, lower IL-35 levels were moderately negatively correlated with NT-proBNP ($r = -0.567$, P<0.01) and hs-CRP ($r = -0.718$, P<0.01) in CHD patients, whereas the levels of IL-35 were not related to the Gensini score.

Key words coronary disease; interleukin-35; high sensitive-C reaction protein; NT-proBNP; atherosclerosis

目前认为抗炎性细胞因子与促炎性细胞因子之间的失平衡最终导致动脉粥样硬化的进展、斑块的

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不稳定以及急性缺血事件的发生^[1-3]。2007年, Niedbala等^[4]和Collison等^[5]分别发表了关于IL-35的文章,证实IL-35是由两个亚基IL-12 α 链p35和IL-27 β 链EBI3以二硫键共价连接而成,由CD4 $^{+}$ T

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