

房室结折返性心动过速多径路食道电生理特征及意义

——附 1 例报告暨文献复习

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摘要 房室结多径路在临床中常见,其食道电生理有较典型特征,如多种频率心动过速。我们发现一例食道调搏存在两种频率心动过速患者,第一次在右延伸处成功慢径改良后较长时间不能发现另一条慢径存在,40 分钟后另一条慢径才表现并于左延长处成功消融。提示如食道电生理发现存在多径路时心内电生理一定要多次重复检查,必要时延长观察时间,力争一次完整消融多条径路。

关键词 食道电生理 房室结多径路 心内电生理 消融

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The Esophageal Electrophysiology Characteristics and Significance of Atrioventricular Nodal Reentrant Tachycardia: one Case Report and Reference Review

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ABSTRACT: Multiple atrioventricular node pathways are usually seen in clinical practice. Its esophageal electrophysiology has the typical characteristics of tachycardia of multiple frequency. We found a case with trans-esophageal atrial pacing (TEAP) showed two types of tachycardia. Following the successful improvement of the slow bypass at the right extension, the other slow bypass did not found until 40 minutes later and it is ablated at left extension. It indicates that repeating intracardiac electrophysiology examination is critical for atrioventricular node multi-paths and extending the observing time may be necessary. The goal is to ablate all the bypasses with one operation.

Key words: Esophageal electrophysiology; Multiple atrioventricular pathways; Intracardiac electrophysiology; Catheter ablation

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前言

房室结多径路在临床中常见,但其体表心电图常无明显特征,常规无创检查难以明确诊断。寻找房室结多径路无创检查的临床特征可能对本病诊断有较高的实用价值。我们在食道电生理检查时发现一例并经心内电生理检查证实,现报道如下。

1 临床资料

患者 37 岁,女性,因“反复发作性心悸 1 月”入院。1 月前在患者于工作时突感心悸、心跳快,伴黑矇,于当地医院心电图示阵发性室上性心动过速,心率 210 次/分。经药物(异搏定)作用心动过速突然终止。院外间断服用“稳心颗粒、倍他乐克”,心动过速反复反作,曾行心电图检查发现室上速,心率 180 次/分左右。为明确诊治,于我院行经食道电生理检查。结果发现:

1、常规心电图为窦性心律,心率 80 次/分,P-R 间期 0.12S (图 1) 2、S1S1 连续刺激检测窦房结功能为窦房结恢复时间(SNRT)为 820ms,传导时间(SACT)为 140ms,反复 S₁S₁ 刺激未诱发心动过速 3、S1S2(500/400 ms)程控制刺激(8:1,负扫 10 ms),S2R 于 270 ms 时跳跃延长 120 ms (200ms 320ms),并诱发窄 QRS 心动过速 (supraventricular tachycardia, SVT), 频率先为 186 次/分(图 2),后很快增带速为 215 次/分(图 3)心动过速为 215 次/分食道心电图 R-P' 示为 70 ms,心动过速下单个 S₁ (S-R 间期为 120 ms)刺激终止心动过速(图 3)。食道调搏的诊断:窦房结功能正常,考虑房室结折返性心动过速(多径路),请心内电生理检查时注意。

患者完善相关检查及术前准备后行心内电生理检查发现:右心室刺激示加传呈向心性,HIS A 波最早,S1S2 刺激可见 VA 呈文氏分离(图 4),高右房(HRA)S₁S₁ 400 ms 反复诱发窄 QRS 室上速,频率 200 次/分,腔内各导呈现向心性回传,VA 几近融合,考虑为房室结双径路(慢快型,图 4),随后送入大头电极至冠状窦口附近 P₁ 区,右延伸方向找到小 A 大 V 处(图 4),以 30 焦耳放电,2S 出现交界性心律,随后交界性心律逐渐减少至消失,放电共 200 S。术后 30 分钟电生理检查未诱

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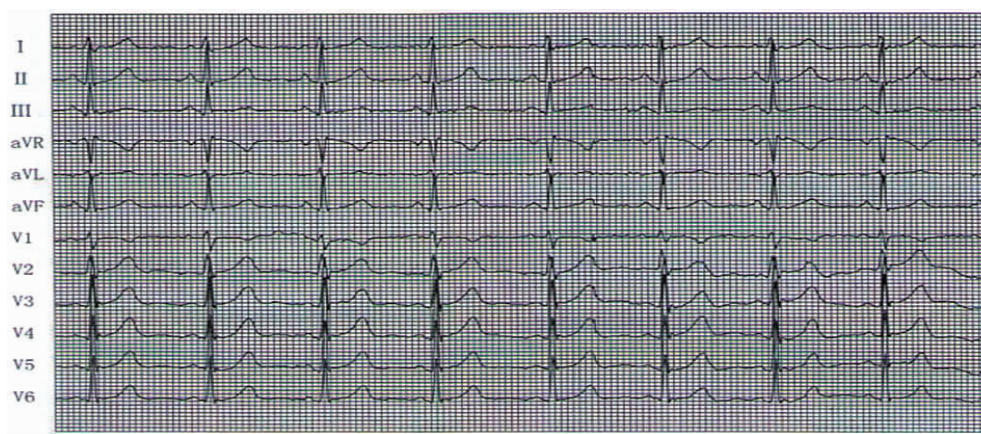
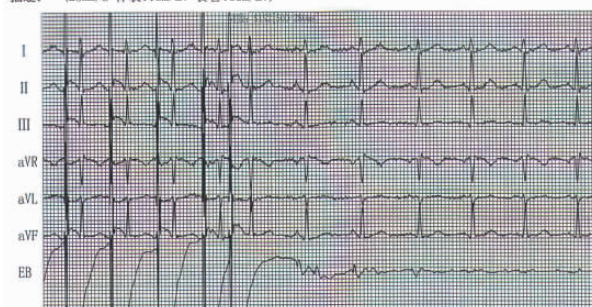


图 1 正常心电图

Fig. 1 Normal ECG

描述: (25mm/s 体表:1cm/mV 食管:5cm/mV)



描述: (25mm/s 体表:1cm/mV 食管:5cm/mV)

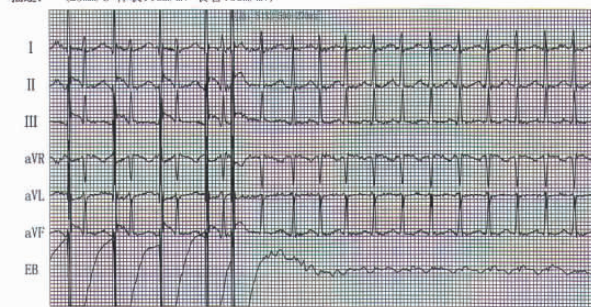


图 2 S1S2 程序刺激(500:280ms),S2-R 跳跃延长 120ms(200:320ms)并诱发心动过速,频率 186 次 / 分

Fig.2 Stimulated with programmed S1S2(500:400ms), S2R jumped and extended 120ms(200:320ms), induced SVT with heart rate of 186bpm



描述: (25mm/s 体表:1cm/mV 食管:10cm/mV)

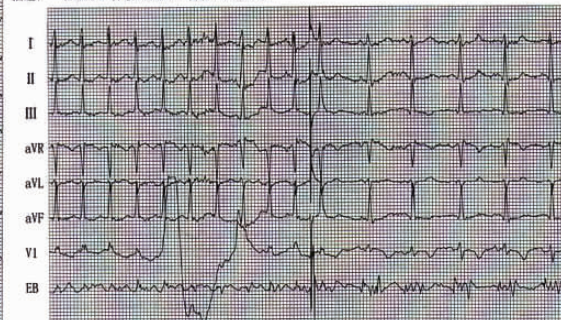


图 3 频率增快为 215 次 / 分,并稳定,经 S1 刺激心动过速终止

Fig.3 The heart rate of supraventricular tachycardia increased to 215 bpm. The tachycardia was stopped with S1 stimulate

发室上速,也未见跳跃,由于食道电生理发现患者有两种室上速,故观察时间长。在术后 40 分钟时高右房(HRA)S1S1 于 320 ms 时再次诱发心动过速,频率为 158 次 / 分,腔内各导联呈现向心性回传,VA 几近融合,考虑仍为房室结双径路(慢快型,图 5),原消融位置无效。再于 P₁ 区左延伸处找到小 A 大 V 处(图 6),以 30 焦耳放电,8S 出现交界性心律,并逐渐减少至消失,放电共 110S。观察 30 分钟后,重复心房 S₁S₁ 为 450 ms 时 AV 出现文氏传导,不再诱发心动过速,其余心房、心室电生理检查未出现跳跃及心动过速。异丙肾作用下亦未见跳跃和心动过速,上诉提示房室结慢径路改良成功。电生理诊断:房室结三径路(慢快型)伴房室结折返性心动过速。

2 房室结多径路的诊断与食道电生理特征、意义

房室结折返性心动过速多径路引起的心动过速发生率约 5.2~9%^[1-6],但在体表心电图很难发现,多在电生理检查时才发现。但心内电生理检查为有创性检查,其费用也较昂贵,有时消融其中一条慢径时可能影响另一条慢径的不应期及心内电生理特征,导致不能一次将所有慢径改良^[7,8]。无创检查如经食道心房调搏如能提前发现这一现象存在,则可提醒术者在术中加强电生理检测,防止漏消融。但经食道调搏如何发现多径路的存在?

食道电生理提示房室结多径路的特征有^[9-13]: 1) 心房 S1S2 刺激 S2R 间期跳跃性延长两次以上 2) 自发不同类型的房室结折返性心动过速并相互转换 3) 一个心房波后继 3 个 QRS 波 4) 连续两个心室回波 5) 房室结折返性心动过速时心动周



图 4 右心室刺激示加传呈向心性,His A 波最早

Fig. 4 Stimulated from right ventricular, the first retrograded A wave was His

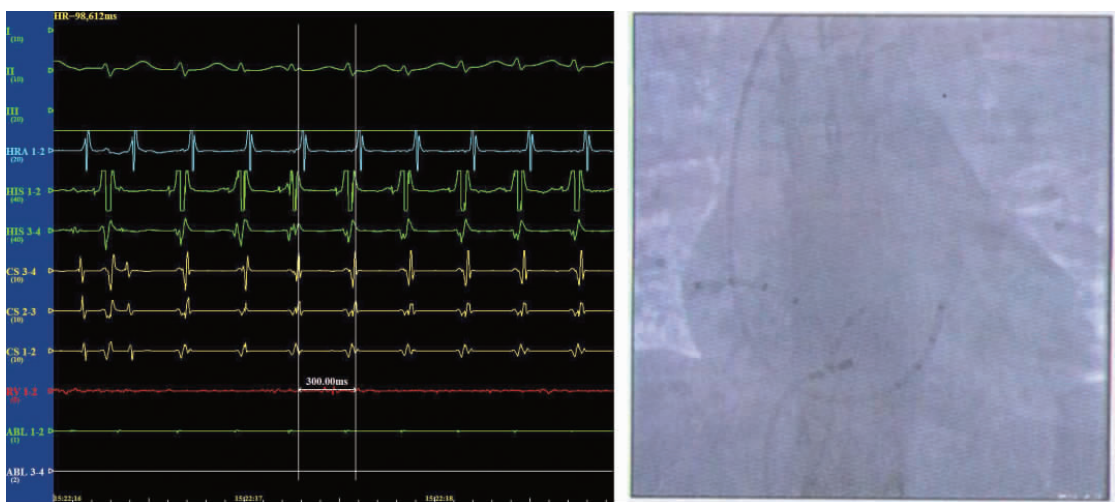


图 5 高右房(HRA)S1S1 400ms 诱发窄 QRS 室上速,频率 200 次 / 分,为房室结双径路,于右延伸处改良慢径成功

Fig. 5 From high right atrial, stimulation of S1S1(400ms) induced SVT of 215 bmp. The slow path was ablated from right extension

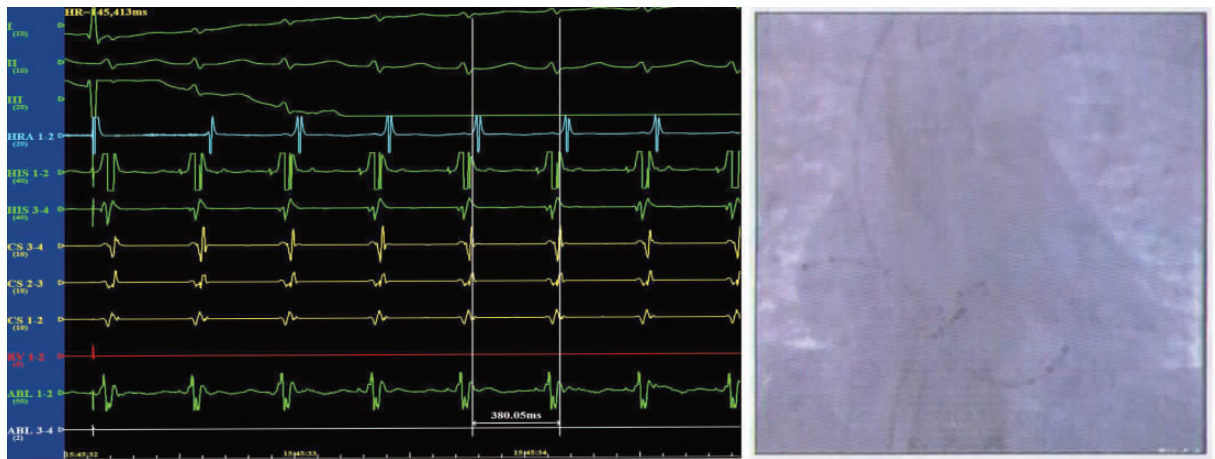


图 6 高右房(HRA)S1S1 于 320ms 时再次诱发房室结折返性心动过速,频率为 158 次 / 分,原消融位置无效。再于 P1 区左延伸处改良慢径成功

Fig. 6 From high right atrial, stimulation of S1S1(320ms) induced another SVT with 158 bmp. The slow path was ablated from left extension

期不断变换。

本例患者食道电生理检查时出现两个心动过速频率(186次/分 $\geq$ 15次/分),提示存在多径路可能,为此在第一次右延伸消融慢径成功后终止一种200次/分的心动过速后,我们观察了40分钟,并多次行完整心内电生理检查,最后终于发现另一频率为158次/分的室上速,在右延伸处不能再成功消融,后于左延伸处消融慢径成功,并最终完全终止室上速的发生。

本例患者提示在食道电生理检查如果发现存在多径路特征时,一定要做出提示,这样心内电生理检查时才会更加注意,必要时会给予延长观察时间、药物刺激等方法加以检验,以争取一次手术解决多种心动过速,减少复发和重复手术,减轻患者痛苦^[14,15]。

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