

Successful Catheter Cryoablation for Atrial Fibrillation In Patients With Permanent Cardiac Pace-maker Implants

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ABSTRACT

In daily practice, several methods including electrocardiography, 24-hour Holter ECG monitoring or event recorders are frequently used for diagnosis and follow-up of patients with atrial fibrillation (AF). Although these tests provide crucial information, they may be insufficient in selected cases. In this case, we utilized intracardiac electrocardiogram recordings for both diagnosis of AF and detection of AF recurrence in a patient with permanent pace-maker who underwent AF ablation due to symptomatic and asymptomatic paroxysmal AF episodes. Since patients with permanent pace-maker implants have continuous monitoring via intracardiac recordings, we believe that it is the most definite method for both diagnosis and monitoring of treatment success.

Keywords: Atrial fibrillation ablation, intracardiac recordings.

Kalıcı Kalp Pili İmplantı Olan Atriyal Fibrilasyonlu Hastada Başarılı Kateter Kriyoablasyon

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ÖZET

Günlük pratikte hastalarda atriyal fibrilasyon ataklarının tanı ve takibinde sıklıkla elektrokardiyografi, ritim holter ve olay kaydedici kullanılmaktadır. Bu testler önemli bilgi sağlasa da yetersiz kaldıkları vakalar olabilmektedir. Biz vakamızda daha önce kalıcı kalp pili implante edilmiş, semptomatik ve asemptomatik atrial fibrilasyon atakları olan hastanın tanısının koyulmasında ve atrial fibrilasyon ablasyonu sonrası rekürrens takibinde kalp içi kayıtlardan faydalandık. Kalıcı kalp pili olan hastalarda, intrakardiyak kayıtlarla devamlı takip sağladığından, hem tanı koymada hem de tedavi başarısını belirlemede kullanılabilir en kesin yöntem olduğunu düşünüyoruz.

Anahtar Kelimeler: Atrial fibrilasyon ablasyonu, intrakardiyak kayıtlar.

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Case

A 70-year-old female patient was admitted with palpitation and shortness of breath complaints. The patient was implanted a permanent pace-maker for sick sinus syndrome 1 year ago in our clinic. Although she was receiving amiodarone and metoprolol therapy for rate and rhythm control, she was noticed to have symptomatic (consistent with event time) and asymptomatic AF episodes when we examined her IEGMs. echocardiographic examination revealed normal left ventricle ejection fraction (55 %), left atrial enlargement (43 mm) and mild mitral regurgitation. AF ablation with cryoballoon was scheduled. Following transeptal puncture, all of the four pulmonary veins were isolated with cryoballoon catheter (Arctic front©, medtronic cryocath lp, kirkland, Canada. Isolation of pulmonary veins was confirmed during and after ablation with circular mapping catheter. In addition, programmed atrial stimulation and 'burst pacing' maneuvers were performed and no tachycardia was induced. Her symptoms improved and follow-up visits confirmed IEGMs revealed no AF episode (Figure 1).

Discussion

AF is common in patients with pacemakers and associated with adverse outcomes especially in patients with sick sinus syndrome history (2). AF ablation with radiofrequency catheters is a common and effective treatment for these patients (3). Monitorization of recurrence after ablation is generally based on symptoms of the patients in conjunction with 24-hour ambulatory ECG recordings, transtelephonic ECG or event-recorders (4).

Certain forms of pacing modes in patients with pacemakers may not detect very short-lasting AF episodes, however IEGMs are usually adequate for AF diagnosis and follow-up after ablation. Different from other follow-up methods, more precise records can be obtained by continuous recording. Absence of any AF episode 24-hour after the ablation procedure suggests that IEGM may be an optimal method for diagnosis and follow-up of patients with pacemakers.

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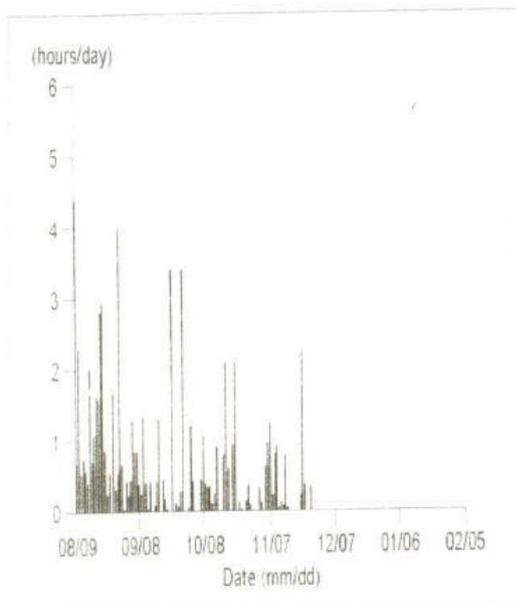
Pacemaker Model: Medtronic Adapta ADDR01
Serial Number: NWB947305

Software SW003 7.3
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Atrial Arrhythmia Trend Report

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Data Collection Period: 08/09/14 - 01/31/15 (Over Last 175 days)



Initial Interrogation

Episode Trigger Mode Switch
Detection Rate 175 bpm
Detection Duration No Delay

Data Collected

Collected Daily
Last follow-up 12/23/14