the study by Gibson et al. (3) were recorded at the rate of 30 frames/s. When we evaluated our findings according to the rate of 30 frames/s, there was no statistically significant change in the association between restless legs syndrome (RLS) and coronary slow flow (CSF).

Ohayon et al. (4) reported RLS prevalence in the general adult population.

1) A symptom only: ranged from 9.4% to 15%,
2) A set of symptoms meeting the minimal diagnostic criteria of the international RLS study group: ranged from 3.9% to 14.3%,
3) Meeting minimal criteria accompanied with a specific frequency and/or severity: ranged from 2.2% to 7.9%,
4) A differential diagnosis: ranged from 1.9% and 4.6%.

In our study, 33 subjects (38%) had RLS with the CSF phenomenon, and 15 (17%) had RLS without the CSF phenomenon (1). The prevalence of RLS in our control group was slightly higher than the prevalence of Ohayon's (4) study. Previously, we found that (5) the prevalence of RLS in hypertensive patients was more than twice as frequent as that in normotensive individuals (35.3 vs. 17.2%, respectively, $p<0.01$).

Additionally, there were significant but weak correlations between mean TFC ($r=0.268$, $p<0.001$), LAD TFC ($r=0.322$, $p<0.001$), and RCA TFC ($r=0.117$, $p=0.02$) and severity of RLS. There was no significant correlation between Cx TFC and severity of RLS.

İsmail Erden, Yasin Türker[1]
Department of Cardiology, Kocaeli Derince Training and Research Hospital; Kocaeli-*Turkey*
[1]Department of Cardiology, Süleyman Demirel University; Isparta-*Turkey*

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Address for Correspondence: Dr. İsmail Erden,
Kartal Koşuyolu Kalp ve Araştırma Hastanesi,
Kardiyoloji Bölümü, İstanbul-*Türkiye*
Phone: +90 380 542 13 92
Fax: +90 380 542 13 87
E-mail: iserdemus@yahoo.com
Available Online Date: 22.05.2015

Ultrasound-assisted catheter-directed thrombolysis for pulmonary embolism

To the Editor,

We have read through the case report article with great interest, entitled "Combined catheter thrombus fragmentation and percutaneous thrombectomy in a patient with massive pulmonary emboli and acute cerebral infarct," by Uğurlu et al. (1) and published in Anatol J Cardiol 2015; 15: 69-74. For the last two years, ultrasound-assisted catheter-directed thrombolytic (USAT) has been used as an alternative method for treatment in selected cases (2). We believe that massive pulmonary embolism can be a life-saving treatment option in experienced centers of the percutaneous intervention. However, we have some concerns about employing it in "intermediate-high" group patients. In this article, we would like to present a successful USAT on a patient to whom a prior thrombolytic treatment had been applied. However, this initial thrombolytic treatment had ended with failure and a bleeding complication had developed.

A 75-year-old female patient with hemiplegia showed thrombus in bilateral main pulmonary arteries in CT pulmonary angiogram (CTPA) performed at another center, and developed respiratory and cardiac failures. The patient was given thrombolytic treatment; however, her hypoxemia got deeper in spite of anticoagulant treatment. The patient whose thrombolytic treatment was in the "intermediate-high" category with respect to mortality risk, pulmonary embolism severity index was 175, and Wells bleeding risk score was 4, was admitted to the intensive care treatment. Since the probability of mortality was determined as 10–25% within the first 30 days, systemic thrombolytic treatment failed, and since the bleeding risk remained high, USAT was planned. Angiography for USAT was performed under local anesthesia during invasive mechanical ventilator support. Mean pulmonary artery pressure was found to be 53 mm Hg. 5 mg tPA bolus was administered through each catheter to maintain the patency of catheters and receive an immediate response. Following a total 10 mg push, a continuous tPA infusion was initiated as 1 mg/h dose for the first 5 hours, and 0.5 mg/h dose for the following 10 hours time. In addition to tPA, the patient was administered systemic unfractionated heparin. Echocardiographic evaluation on the fifth day of treatment revealed that pulmonary artery pressure and right ventricular functions were back to normal. CTPA showed almost complete resolution of thrombi within the pulmonary arteries.

According to Uğurlu et al. (1), percutaneous intervention is a life-saving treatment option in massive PE treatment. USAT treatment was found to be especially effective at the right ventricular dilatation without causing any hemorrhage, compared with unfractionated heparin infusion in patients diagnosed with intermediate-risk PE (3). In conclusion, our case indicates that USAT is a safely usable option for treating massive and sub-massive PE's with high-risk of bleeding and is unresponsive to systemic thrombolytic treatments.

Ufuk Eryılmaz, Şule Taş Gülen*, Çağdaş Akgüllü*, Esra Alperen*, Osman Elbek*
Departments of Cardiology and *Chest Disease, Faculty of Medicine, Adnan Menderes University; Aydın-*Turkey*

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Address for Correspondence: Dr. Ufuk Eryılmaz,
Adnan Menderes Üniversitesi,
Tıp Fakültesi Kardiyoloji Anabilim Dalı,
Merkez Kampüs 09010 Aydın-*Türkiye*
Phone: +90 506 516 28 97
E-mail: drufukeryilmaz@gmail.com
Available Online Date: 22.05.2015

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Electrical storm in an adolescent with arrhythmogenic right ventricle cardiomyopathy treated with cardiac transplantation

To the Editor,

Arrhythmogenic right ventricle dysplasia/cardiomyopathy (ARVD/C) is an inherited cardiomyopathy characterized by fibro fatty replacement of the right and less frequently left ventricle (1, 2). Ventricular arrhythmias requiring implantable cardioverter defibrillator (ICD) are common in patients with ARVD/C and electrical storm (≥3 life-threatening ventricular arrhythmia within 24-hour period) resulting in ICD discharges is a major cause of morbidity and mortality (3). Radiofrequency ablation with three-dimensional (3-D) mapping and navigation systems has been recently advocated as a preferred treatment for recurrent ventricular arrhythmias (4). We had experience of a case of a15-year-old boy who presented with chest pain and decreased exercise capacity. He had undergone surgical closure for atrial septal defect and complicated with ventricular tachycardia/fibrillation postoperatively at 11 years-old. No history of congenital heart defect in family and syncope were found. Premature ventricular contractions were determined occasionally in 24-hour Holter monitoring. Echocardiography revealed a dilatation of the right ventricle and the right ventricle outflow tract. The dilated infundibulum and increased trabeculation in the right and left ventricle were shown in the cardiac angiography and magnetic resonance imaging. Non-sustained monomorphic ventricular tachycardia (VT) with the rate of 260 beats/minute was induced by programmed stimulation with a single extra-stimulus from the right ventricle. He was diagnosed as ARVD/C and ICD was implanted for primary prevention. Two years later, the episodes of ventricular tachycardia/fibrillation were repeated 35 times within one month. Amiodarone and sotalol administration was initiated and the ablation treatment was planned. A single 4 mm open-irrigation ablation catheter (Medtronic, MN, USA) was advanced to right ventricle via femoral vein by using the EnSite NavX 3D mapping and navigation system (St Jude Medical, MN, USA). The area with <0.5 mV during voltage mapping was considered as scar tissue. Radiofrequency ablation was applied to around the scar at the temperature 45°C with 30-35 Watt energy. Total procedure time was 280 minutes. Two months later, the electrical storm repeated again and the patient was arrested in a short time. He was immediately connected to the pump after cardiac resuscitation and underwent cardiac transplantation from an adult cadaver one day later. He has been on follow-up with no symptom for three years.

Stec et al. (4) reported a pregnant woman with an electrical storm due to ARVD/C of successful endocardial catheter ablation, by using 3-D mapping and navigation system. Although ventricular tachycardia frequency is reduced after catheter ablation, ventricular arrhythmia recurrence is still common in ARVD/C (2). It appears that ICD is currently an indispensable treatment option in ARVD/C.

Philips et al. (2) claimed that VT-free period after epicardial ablation was longer than those after endocardial ablation. They speculated that it was because of epicardial distribution of ARVD/C. In our case, recurrence of VT may be associated with endocardial ablation. Nevertheless, catheter ablation of ventricular tachycardia in ARVD/C can be considered as a beneficial method in terms of reducing the side effects of antiarrhythmic drugs and prolonging the life of ICD battery (2). The management of an electrical storm should be individualized for each patient and the treatment may indicate extracorporal membrane oxygenation and cardiac transplantation.

Hayrettin Hakan Aykan, Mustafa Gülgün[1], İlker Ertuğrul, Tevfik Karagöz
Pediatric Cardiology, Faculty of Medicine, Hacettepe University; Ankara-*Turkey*
[1]Pediatric Cardiology, Gülhane Military Medical Academy; Ankara-*Turkey*

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Address for Correspondence: Dr. Mustafa Gülgün,
Gülhane Askeri Tıp Akademisi, Pediyatrik
Kardiyoloji Bölümü, 06010 Etlik, Ankara-*Türkiye*
Phone: +90 312 305 11 57
E-mail: mustafagulgun@yahoo.com, mgulgun@gata.edu.tr
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Long term follow-up in a patient with acute type A aortic dissection complicated with cardiac tamponade without surgery

To the Editor,

Acute type A aortic dissection complicated by cardiac tamponade is a rare disease but frequently associated with poor outcomes. Urgent open surgical repair is required for this patient group. Here, we discussed long term follow-up in a patient who developed acute type A aortic dissection complicated by cardiac tamponade and did not undergo surgery.