Hemodynamically unstable wide QRS complex tachycardia: a case report

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KEYWORDS: atrial fibrillation, wide QRS complex tachycardia.

CITATION: Cardiol Croat. 2015;10(9-10):230-231. | DOI: <http://dx.doi.org/10.15836/ccar.2015.230>

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Tachycardia is arrhythmia characterized by heart rate >100 / minute. According to the width of the QRS complex it can be divided into narrow QRS (<120 ms) and wide QRS tachycardia (>120 ms). Narrow QRS tachycardia is always supraventricular which means that its source is proximal to the bundle of His, while wide QRS tachycardia can be ventricular (source is in ventricle, distal to the bundle of His) or supraventricular. The strategy of treating this two conditions is different, so correct diagnosis is prerequisite for optimal therapy.^{1,2} We present this case because the differential diagnosis of wide QRS tachycardia and therefore treatment planning was particularly difficult due to simultaneously present atrial fibrillation with hemodynamic instability and an acute threat to life of patient.

We present patient who was hospitalized in pulmonary edema caused by wide QRS tachycardia (Figure 1) that was resistant to standard drug therapy and demanded mechanical ventilation support. During each episode of VT, DC was done because of hemodynamic instability. Because of multi organ

FIGURE 1. Tachycardia with wide QRS complexes.

RECEIVED:
July 27, 2015
ACCEPTED:
September 17, 2015

FIGURE 2. An electrophysiology study: His potential before ventricular QRS complex.

failure we considered the application of ECMO. Before ECMO urgently EPS study was done (Figure 2). Study has shown that patient has atrial flutter/fibrillation with occasionally alodromic conduction. The patient underwent successful ablation of the AV node with pacemaker implantation, with following complete recovery of the patient.

LITERATURE

1. Camm AJ, Lip GY, De Caterina R, Savelieva I, Atar D, Hohnloser SH, et al; ESC Committee for Practice Guidelines (CPG). 2012 focused update of the ESC Guidelines for the management of atrial fibrillation: an update of the 2010 ESC Guidelines for the management of atrial fibrillation. Developed with the special contribution of the European Heart Rhythm Association. *Eur Heart J*. 2012;33(21):2719-47. DOI: <http://dx.doi.org/10.1093/eurheartj/ehs253>
2. Zipes DP, Camm AJ, Borggreffe M, Buxton AE, Chaitman B, Fromer M, et al; American College of Cardiology; American Heart Association Task Force; European Society of Cardiology Committee for Practice Guidelines; European Heart Rhythm Association; Heart Rhythm Society. ACC/AHA/ESC 2006 guidelines for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death: a report of the American College of Cardiology/American Heart Association Task Force and the European Society of Cardiology Committee for Practice Guidelines (Writing Committee to Develop guidelines for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death) developed in collaboration with the European Heart Rhythm Association and the Heart Rhythm Society. *Europace*. 2006;8(9):746-837. DOI: <http://dx.doi.org/10.1093/europace/eul108>