OPEN ACCESS

LETTER TO EDITOR

Management of Dysrhythmia in Emergency Department

Arash Safaie*

Department of Emergency Medicine, Sina Hospital, Tehran University of Medical Sciences, Tehran, Iran

***Corresponding Author:** Arash Safaie, Departmnet of Emergency Medicine, Sina Hospital, Tehran University of Medical Sciences, Tehran, Iran.
E-mail: dr.safaie@yahoo.com
Received: 13 November 2014; Acceptance: 5 December 2014

To the Editor:

In volume 2, No. 3 (2014) of this journal an interesting case report, describing a patient with atrial filbrillation (AF) and Wolff-Parkinson-White syndrome (WPW), was published (1). As the respective authors described, the patient was a 23-year-old man who had palpitation, on the Electrocardiograph (ECG), which was provided, we saw irregular monomorphic wide complex tachycardia with a heart rate of about 150 per minute. The patient was treated with digoxin and consequently developed severe lethargy, weakness, sweating and bradycardia. Post treatment ECG showed normal sinus rhythm (heart rate about 60) and obvious signs of WPW syndrome (short PR interval, initial delta waves and wide QRS). Based on post treatment ECG and response to procainamide, the authors concluded that administering digoxin in this patient was wrong and had resulted in the patient's symptoms. I would like to share my points of view on this case with your respective readers:

1. Signs suggesting concurrence of AF and WPW on ECG are rapid ventricular rate (too rapid for conduction through atrioventricular (AV) node; more than 180-200 in most literature) and wide bizarre polymorphic QRS complexes (resulting from either varying fusions of impulses conducted through accessory pathway and AV node or existence of multiple APs) (2-5). Based on his pretreatment ECG, the patient did not have any of the two mentioned criteria (he had monomorphic wide complex irregular tachycardia with a heart rate of about 150). To this date, no guideline has recommended assuming any case of AF with widened QRS as WPW concurrency. As the patient did not show any signs suggesting WPW, using digoxin was not wrong based on ECG findings (despite the fact that if the physician knew about his WPW digoxin administration was surely wrong). Therefore, it seems that symptoms that developed post digoxin administration were not related to the patient's rhythm or baseline WPW syndrome.

2. Based on 2014 AHA/ACC guideline for the management of patients with AF, intravenous procainamide or ibutilide are drugs of choice in patients with AF and WPW. Intravenous amiodarone is contraindicated in AF and WPW concurrency, just like adenosine, digoxin, or nondihydropyridine calcium channel antagonists (6).

References:

1. Hashemi B, Pishgahi M, Maleki M. Worsened Dysrhythmia after Chemical Cardioversion with Digoxin; a Case of Malpractice. Emergency. 2014;2(3):147-9.
2. Fengler BT, Brady WJ, Plautz CU. Atrial fibrillation in the Wolff-Parkinson-White syndrome: ECG recognition and treatment in the ED. Am J Emerg Med. 2007;25(5):576-83.
3. Thanavaro JL, Thanavaro S. Clinical presentation and treatment of atrial fibrillation in Wolff-Parkinson-White syndrome. Heart Lung. 2010;39(2):131-6.
4. Fananapazir L, German L, Gallagher J, Lowe J, Prystowsky E. Importance of preexcited QRS morphology during induced atrial fibrillation to the diagnosis and localization of multiple accessory pathways. Circulation. 1990;81(2):578-85.
5. Biase LD, Walsh EP. Treatment of symptomatic arrhythmias associated with the Wolff-Parkinson-White syndrome. In: TW P, editor. UpToDate. Waltham, MA.
6. January CT, Calkins H, Murray KT, Cigarroa JE, Stevenson WG. 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation. Circulation. 2014;129:1-76.