American Journal of Cardiovascular Disease Research, 2016, Vol. 4, No. 1, 11-14
Available online at http://pubs.sciepub.com/ajcdr/4/1/3

DOI:10.12691/ajcdr-4-1-3

Aortic Dissection Presenting with New Onset Slow Atrial Fibrillation

Ameen Mosa Mohammad[1,*], Shivan Umir Mohammed[2]

[1]Department of Internal Medicine, Faculty of Medical Sciences, University of Duhok, Kurdistan, Iraq
[2]Fellow in Internal Medicine, Duhok directorate of Health, Kurdistan, Iraq
*Corresponding author: doctoramb@yahoo.com

Abstract Here we present a case of 45 year old male who presented to the emergency department in Duhok, Kurdistan, Iraq in 2014 suffering of two hours sudden onset of dizziness and repeated vomiting. He had unremarkable past medical and drug histories apart of current smoking. On examination the patient was conscious, Pulse rate is 50 bpm and irregular, BP is 90/60 mmHg, evidence of audible murmur on heart auscultation, ECG showed slow atrial fibrillation, Cardiac enzymes were negative. Transthoracic echo (TTE) showed severe aortic regurgitation with a dissecting intimal flap in the ascending aorta. Chest CT-scan was ordered to confirm the dissection and then the patient underwent successful aortic dissection repair. A link between slow atrial fibrillation and aortic dissection has not previously recognized.

Keywords: *aortic dissection, slow atrial fibrillation, transthoracic echocardiography, Iraq*

Cite This Article: Ameen Mosa Mohammad, and Shivan Umir Mohammed, "Aortic Dissection Presenting with New Onset Slow Atrial Fibrillation." *American Journal of Cardiovascular Disease Research*, vol. 4, no. 1 (2016): 11-14. doi: 10.12691/ajcdr-4-1-3.

1. Introduction

Aortic dissection is a cardiovascular emergency. Typically it presents in patient with long standing hypertension with a severe chest pain. Extraordinary clinical presentations have been reported. In particular Atrioventricular blocks have been described in few cases [1,2]. We describe a case of aortic dissection diagnosed by TTE in a young patient, with no history of hypertension and atypical presentation in form of dizziness and slow rate atrial fibrillation.

2. Case Presentation

We present a case of 45 year old male who presented midnight to the emergency department in Duhok, Iraq suffering of two hours sudden onset of dizziness and chest discomfort associated with nausea and vomiting. He had unremarkable past medical apart of current smoking and episodes of migraine. He had no history of any recent trauma. On examination the patient was conscious but dizzy. Pulse rate is 50 bpm irregular rhythm, BP is 90/60 mmHg, evidence of audible murmur on heart auscultation, ECG showed slow atrial fibrillation (Figure 1), Cardiac enzymes were negative. At coronary care unit TTE was performed that showed severe aortic regurgitation with a dissecting flap in the ascending aorta (Figure 2, Figure 3, Figure 4). He was receiving atropine injection on needs whenever the heart rate dropped to marked bradycardia, analgesia and intravenous fluid. At this point, CT scan was ordered to confirm the dissection and then the patient underwent successful aortic dissection repair. Perioperatively there was an intramural hematoma extending to aortic root compressing the atria. Postoperatively one week; Patient is complaining of unsteady gait. CT scan of brain revealed clear infarction in left occipital region with secondary bleeding with intimal flap in the right common carotid artery by 2D ECHO (Figure 5). No more intervention was undertaken and currently the patient is doing well on conservative treatment.

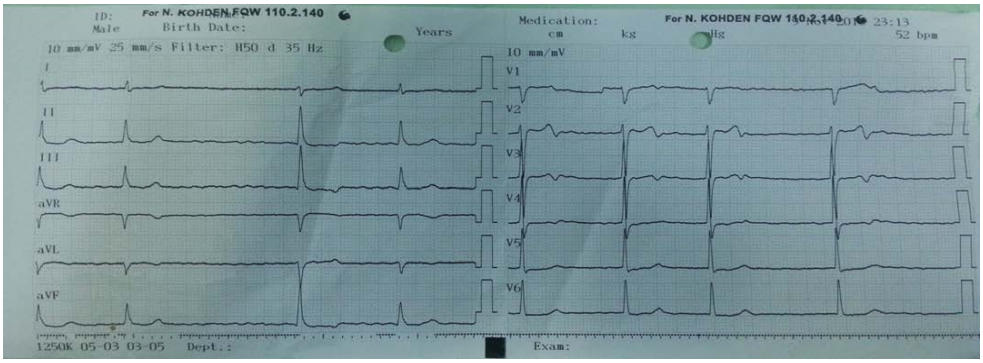

Figure 1. ECG with slow Atrial Fibrillation

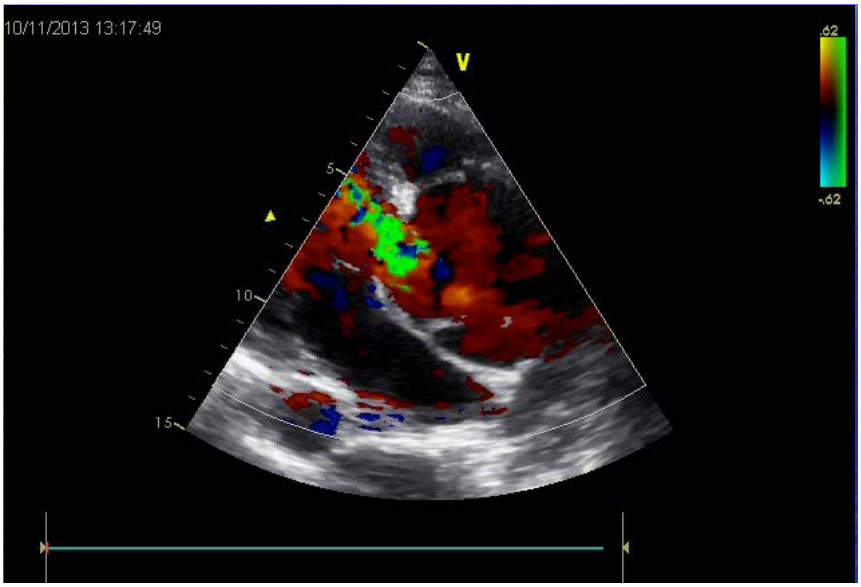

Figure 2. Colored Doppler showed Aortic regurgitation

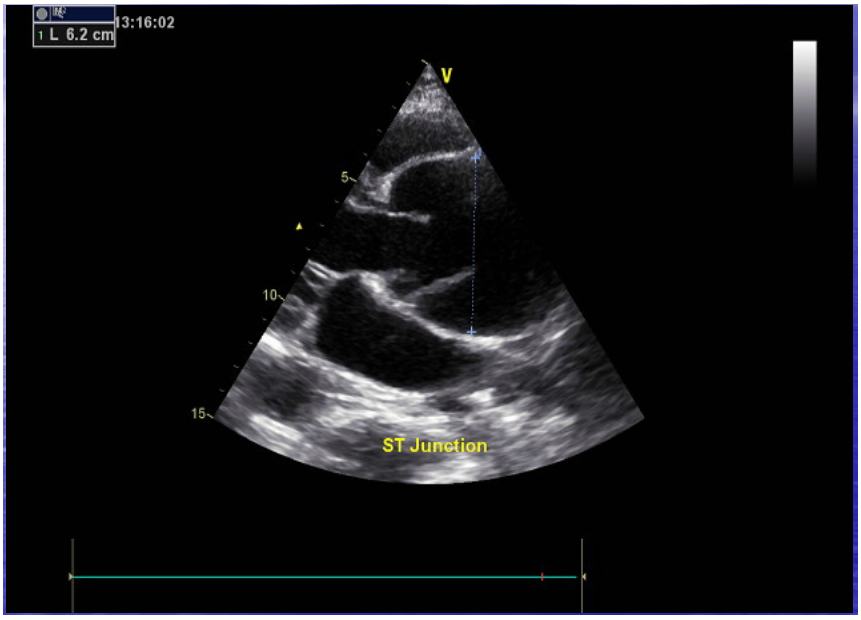

Figure 3. TTE showed dilated ascending aorta with intimal flap

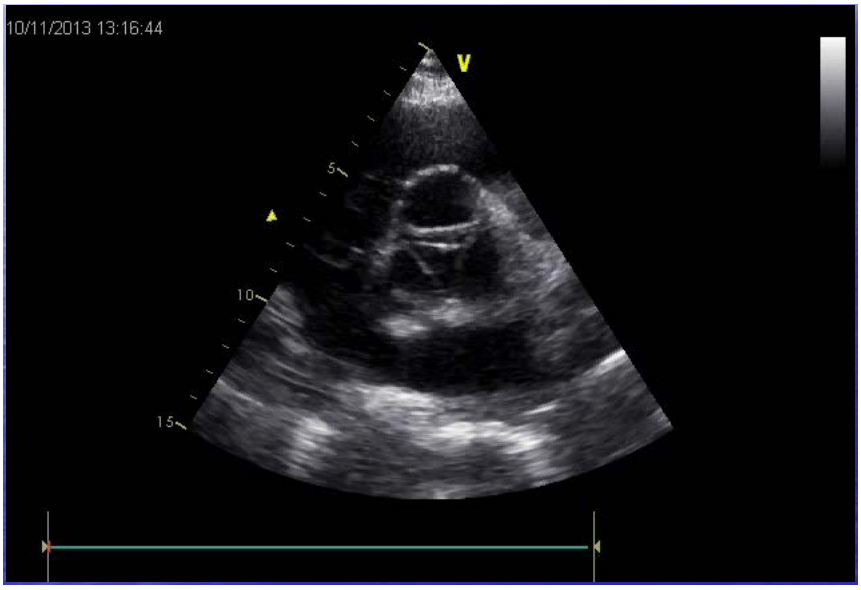

Figure 4. TTE showed disturbance of configuration of Mercedes Benz sign and intimal flap

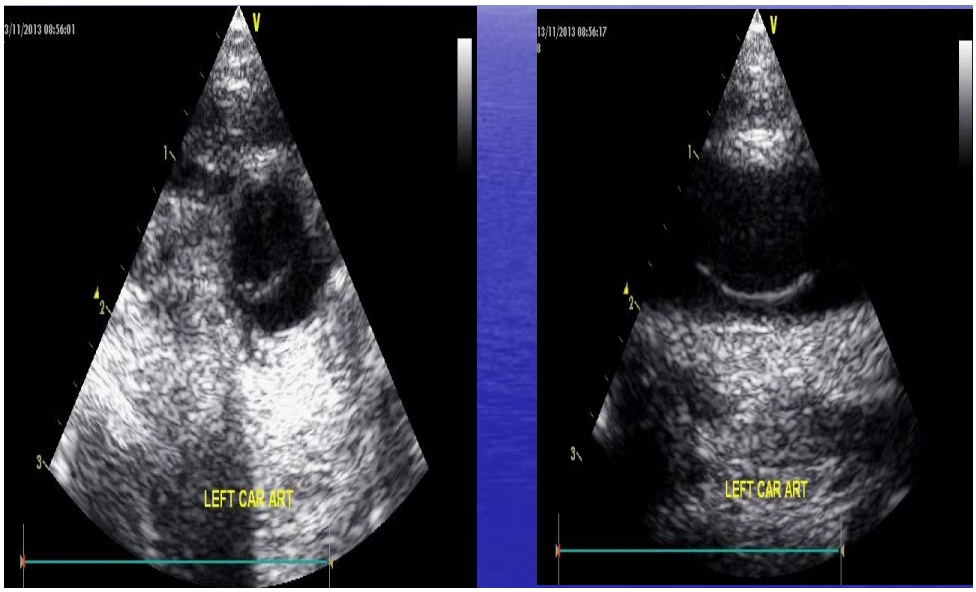

Figure 5. TTE showed dissecting lumen of right common carotid

3. Discussion

Aortic dissection remains a formidable disease and shows rapid clinical deterioration with considerable risk of morbidity and mortality. Echocardiography offers a rapid, real-time and reliable imaging method for the diagnosis of the aortic diseases including ascending aortic dissection. Detection of the intimal flap and double lumens are the most specific signs [3,4,5].

Transthoracic echocardiography is valuable in verifying aortic dissection of the proximal ascending aorta better than of the distal ascending, transverse, and descending aorta, and it is plausible for the diagnosis of type A dissection in patients with shock. In contrast, TEE is specific in viewing the entire thoracic aorta for aortic dissection. CT scan with contrast enhancement can show the extent of aortic dissection as well as the involvement of visceral and iliac arteries. Like MRI, CT is limited in exhibiting coronary involvement, aortic regurgitation, and the occlusions of the branch arteries [6,7].

While results from electrocardiogram are usually abnormal, with a high frequency of left ventricular hypertrophy with strain pattern related to the chronic hypertension which is main etiological factor but ECG rarely present with intraventricular rhythm disturbances such as slow atrial fibrillation or heart block and bundle branch block. Remarkably, no correlation has been reported to date in the literature between type B aneurysms and atrioventricular rhythm disturbances or atrioventricular block [8,9].

On the other hand, a pathophysiologic mechanism has been described in type A aortic dissection with rhythm disturbances such as an atrioventricular block. In type A dissection, hematoma may spread toward the interatrial septum and atrioventricular junction with a resultant slow ventricular response and even heart block. This kind of bradycardic arrythmias are often transient. Intraventricular rhythm disturbances such as a bundle branch block are rarely seen in both types of aneurysms, but atrioventricular block has been described only for type A aneurysms [8,9,10]. In conclusions young age groups are at risk of aortic dissection. ECG might present with atypical and unexplainable atrioventricular conduction defect. Unexplained ECG findings in the setting of acute central chest pain should make us to think about differential diagnosis of acute coronary syndrome. TTE is an initial helpful tool for making the diagnosis of ascending aortic aneurysm. Residual complications of aortic dissection could be managed conservatively whenever the condition settled by successful repair and intervention.

Conflict of Interest Statement

None.

Funding

None.

Ethical Approval

Obtained from University of Duhok.

Consent

Signed consent was obtained.

References

[1] Blas Macedo, Marquez Ramirez, Jose Dominguez. Aortic dissection presenting as a febrile disease and atrial fibrillation. Rev Invest Clin 2007; 59(1):87-89.

[2] Davutoglu V, Kervancioglu S, Celkan A, Soydinc S, Dinckal H. Painless intimoitimal intussusception and fever of unknown origin: an unusual form of aortic dissection. Cardiology 2004; 102:1-3.

[3] Yuan S. M, Lavee J, Kuperstein R. Echocardiographic delineation of type Aaortic dissection. Hong Kong J. emerg. Med. 2012; 19(1): 31-40.

[4] Rizzoli G, Scalia D, Casarotto D, Tiso E. Aortic dissection type A versus type B: a different post-surgical death hazard? Eur J Cardiothorac Surg 1997;12(2): 202-8.

[5] Wiet SP, Pearce WH, McCarthy WJ, Joob AW, Yao JS, McPherson DD. Utility of transesophageal echocardiography in the diagnosis of disease of the thoracic aorta. J Vasc Surg 1994; 20(4):613-20.

[6] Ince H, Nienaber CA. Diagnosis and management of patients with aortic dissection. Heart 2007;93(2):266-70.

[7] Sawhney NS, DeMaria AN, Blanchard DG. Aortic intramural hematoma: an increasingly recognized and potentially fatal entity. Chest 2001; 120(4):1340-6.

[8] Suzuki T, Mehta RH, Ince H, et al. Clinical profiles and outcomes of acute type B aortic dissection in the current era: lessons from the International Registry of Aortic Dissection (IRAD). Circulation. 2003;108 (suppl 1):II312-II317.

[9] Nikolas L, Loannis M, Elias G, Nikolas D, Vassilios V. Aortic dissection and third degree atrioventricular block in a patient with a hypertensive crisis. J Clin Hypertens 2008; 10:69-72.

[10] Thiene G, Rossi L, Becker AE. The atrioventricular conduction system in dissecting aneurysms of the aorta. Am Heart J. 1979; 98:447-452.