SUNTEXT REVIEWS

SunText Review of Medical & Clinical Research
ISSN: 2766-4813

Open Access
Case Report
Volume 4:2

A Case Report of High Degree Atrioventricular Block Simulating As a Seizure

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Received date: 14 May 2023; **Accepted date:** 16 May 2023; **Published date:** 20 May 2023

Citation: Yanamadala A (2023). A Case Report of High Degree Atrioventricular Block Simulating As a Seizure. SunText Rev Med Clin Res 4(2): 178.

DOI: https://doi.org/10.51737/2766-4813.2023.078

Abstract

A complete Atrioventricular (AV) block can present with variable symptoms but oftentimes fatigue, dyspnea, chest pain and syncope being the most common presentation.

Keywords: *Atrioventricular (AV); loss of consciousness (LOC)*

Introduction

A complete Atrioventricular (AV) block can present with variable symptoms but oftentimes fatigue, dyspnea, chest pain and syncope being the most common presentation. An uncommon presentation can include loss of consciousness (LOC), myoclonic jerks, tonic spasms, abnormal eye movements or frank convulsions due to decreased blood supply to the brain, which makes it difficult to distinguish from epilepsy. Our case presents a similar situation in which epilepsy was initially considered as the diagnosis with no initial cardiac symptoms at presentation, later on a diagnosis of complete AV block was made.

Case Report

93 yo female with history of HTN, DM, CKD, diastolic heart failure presented with brief involuntary generalized shaking movements of body without loss of consciousness since 3 days. Initial physical examination is only remarkable for patient appearing drowsy but following commands and vitals are stable. CT head showed no acute abnormality. Neurology was consulted for possible seizures and the patient was transferred to the neuro tele floor. A follow up EEG did not show any abnormalities. On day 2, she was found to be altered with generalized shaky movements and concern for seizures. Patient was given a dose of Ativan for possible seizure with generalized shaky movements. On the tele monitor, she had profound bradycardia with heart rate in 20-30 beats/min. Patient was given atropine with external pacing that improved heart rate to 60's and resolution of shaky movements and improvement in mental status. Follow up labs including electrolytes, troponins, TSH were within normal limits with no reversible cause was found. She has further experienced 3 similar episodes of generalized shaky movements which correspond to bradycardia with complete AV block on tele monitor. Patient was started on dopamine infusion with eventual placement of a dual chamber pacemaker and resolution of symptoms.

Discussion

Myoclonic jerks are one of the common misleading symptom in differentiating AV block from a seizure due to epilepsy disorder. As compared to an epilepsy related seizure, symptoms due to AV block are shorter in duration and correspond to rhythm changes on tele monitor. In patients with no significant change in mental status or post ictal changes, other diagnosis including any electrolyte abnormalities and other reversible causes for abnormal body movements should be in consideration. A 12 lead electrocardiogram should be considered in routine evaluation for a possible seizure and recurrent episodes should prompt for tele monitoring which can help in diagnosing transient AV block which could be contributing to symptoms like in our case. Early diagnosis is crucial as unrecognized transient complete AV block can have higher mortality and even sudden cardiac death. Failure to distinguish from seizure due to epilepsy disorder can lead to

treatment with antiepileptic drugs (AED), which further can have cardiac side effects causing arrhythmias (Figure-1) [1-3].

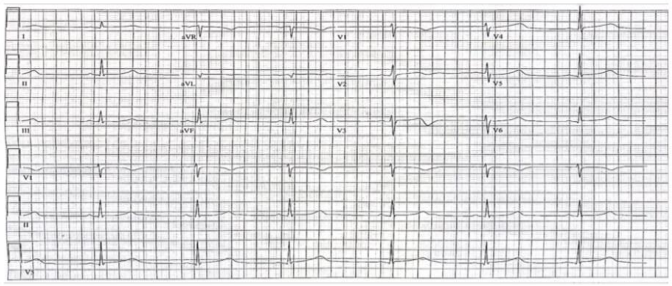

Figure 1: *EKG showing marked sinus bradyacardia with significant prolonged QT interval during abnormal seizure like activity.*

Conclusion

Profound bradycardia presenting like seizure activity is rare, but in patients who don't have altered consciousness and presenting with this abnormal jerky movements should consider other differentials like cardiac arrhythmias in diagnosis. Tele monitoring in these patients will likely help in early diagnosis and improve morbidity and mortality.

References

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