

“Ventricular Standstill for 20 Seconds in Complete Heart Block” - An Uncommon Sight

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Abstract

A 60 year female with no baseline changes on the electro- or echocardiography; was sent to us after the Holter recording showed intermittent complete heart block with R-R interval measuring upto 20 seconds. The patient underwent temporary followed by permanent pacemaker implantation. To our knowledge, this is the longest period of ventricular standstill recorded on holter.

Keywords: ECG; Ventricular standstill; Complete heart block; Ventricular standstill

Introduction

Symptomatic complete heart block requires a permanent pacemaker implantation [1]. Problem often arises when one is dealing with an intermittent CHB and baseline Electrocardiogram shows no evidence of any abnormality. Confusion is compounded particularly in the elderly population where there is a substantial overlap between presentations of seizure and syncope [2]. We report here a case of syncope which was being managed as seizure and the diagnosis was picked up on Holter; with periods of ventricular standstill lasting up to 20 seconds.

Case report

A 60 years old, non-diabetic, non-hypertensive female was admitted to the Cardiology Department with complaints of recurrent episodes of loss of consciousness for 3 days prior to presentation. She gave a history of similar symptom 2 months back and had continued to do well since then. The patient had been evaluated outside with a normal electrocardiogram, normal echocardiography and a normal Computed tomography of the brain. Management had been started on lines of seizure disorder but when she was found to be responding poorly to treatment, a Holter examination was ordered. The Holter revealed many episodes of intermittent Complete Heart block for which she was rushed to our side. One of these episodes lasted for 20 seconds without a ventricular escape (Figure 1; video 1). Temporary pacemaker implantation was immediately done.

Further workup of the case was unremarkable with normal liver and kidney function tests; haemoglobin of 11 gm% and a Serum sodium and potassium level of 135 meq/L and 4.3 meq/L respectively.

Thyroid function tests were found to be within range. She underwent dual chamber rate-responsive pacemaker implantation the following day and was discharged on the third day. The patient is in our regular follow-up leading an absolutely normal life at present.

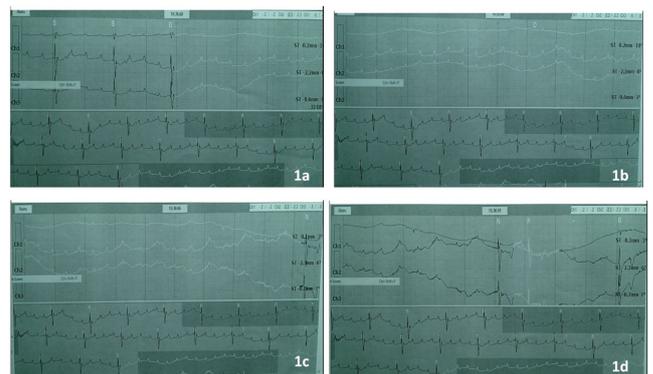


Figure 1: Shows the P waves on the Holter recording without a ventricular response. Figures 1a to 1d are the sequential images in the 20 second event. The event started around 15:35:50 (Figure 1a) and continued till 15:36:10 (Figure 1d). Figures 1b and 1c are the images in between this time frame.

References

1. ACC/AHA/HRS 2008 Guidelines for Device-Based Therapy of Cardiac Rhythm Abnormalities.
2. Jacobson C (2009) Understanding atrioventricular blocks, part II: high-grade and third-degree atrioventricular blocks. AACN Adv Crit Care 20: 112-116.