Atypical Presentations of AV Block in the Urgent Care Setting

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Introduction

This presentation will discuss two unrelated patients who presented to Urgent Care facilities with atypical presentations of atrioventricular (AV) block.

AV block is defined as a delay or interruption in the transmission of an impulse from the atria to the ventricles due to an anatomical or functional impairment in the conduction system. It typically presents with fatigue, dizziness, shortness of breath, palpitations, chest pain or syncope, but uncommonly may be asymptomatic. The incidence of AV conduction abnormalities increases with advancing age, resembling the age-related incidence of ischemic heart disease, and may be associated with elevated blood pressure and glucose levels (2,6). In the United States, the prevalence of third-degree AV block is 0.02%.

Case #1

This patient was a 69 y/o female with PMHx of HLD who presented to urgent care with a chief complaint of 'fatigue and lethargy' for 1 day. She reported a positive exposure to her sick grandchildren. Denied CP, SOB, cough or fever. She presented with the following vital signs:

Temp. 98.7, BP 162/90, HR 60, O2 96%, RR 16

Physical exam was unremarkable. The patient was discharged home from urgent care in stable condition, with suspected viral infection due to known exposure.

The patient sought follow up in the Emergency Department two days later, and was found to have the following vital signs:

Temp. 98.1, BP 225/79, HR 65, O2 97%, RR 16

EKG was performed, which showed a high Degree AV block (figure 1). Other pertinent studies include D-dimer: 585, WBC: 13.6, and negative chest XR.

The patient was diagnosed with Third Degree AV block and hypertensive emergency, and was transferred to the critical care unit. A permanent pacemaker was placed and the patient was discharged after a 2 day hospital stay.

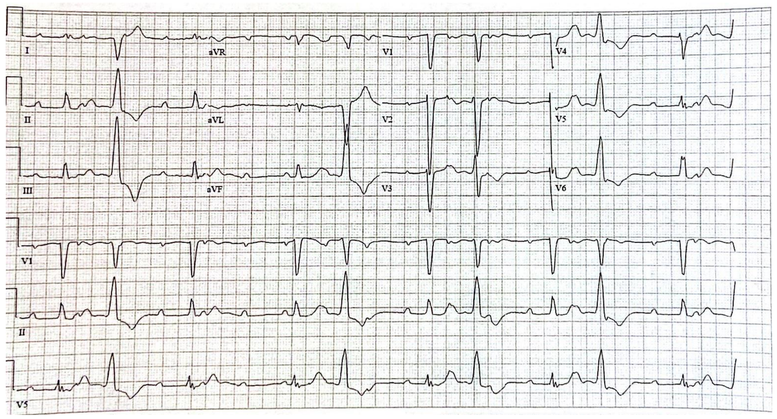

Figure 1: ECG from patient with fatigue showing third degree AV block.

Case #2

This patient was an 83 y/o female with PMHx of HTN and T2DM who presented to urgent care for pre-surgical COVID-19 testing for elective surgery. She offered no other chief complaint at the time of presentation, and review of systems was negative. Patient and accompanying granddaughter noted that the patient was evaluated in a pre-surgical testing center two days prior with no abnormalities found. She was found to have the following vital signs:

Temp 97.1, HR 35 beats/min, BP 210/70, RR 16, O2 99%

Physical exam revealed bradycardia by manually palpated pulse and was otherwise unremarkable.

ECG was performed, showing marked bradycardia and second degree AV block (figure 2).. The patient was transferred to the Emergency Department for further evaluation and management.

Permanent pacemaker was implanted and blood pressure was stabilized. The patient was discharged the next day and surgery was deferred.

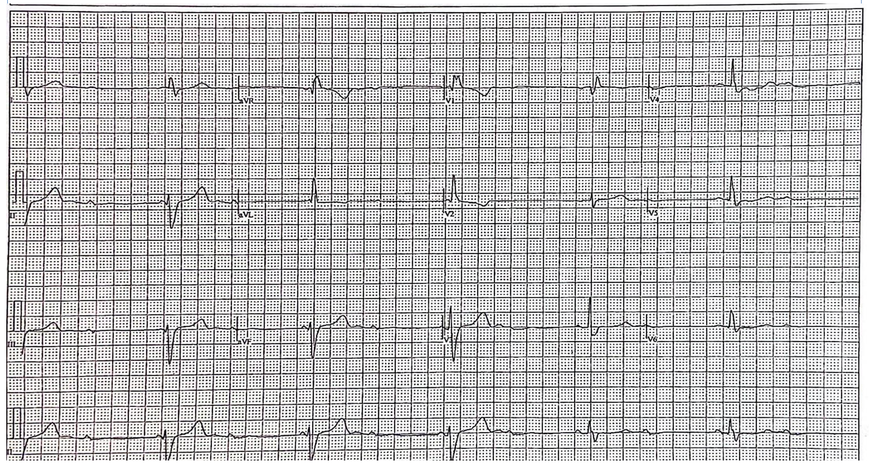

Figure 2: ECG from asymptomatic patient revealing second Degree, Mobitz II AV Block.

Clinical Decision Making

In case 1, the patient did not present with any abnormal vital signs, which lead to the heart block remaining undetected until the patient's symptoms worsened.

In case 2, the patient was asymptomatic but presented with bradycardia, which lead to identification of the AV block. This allowed for immediate escalation of care to the Emergency Department, with PPM implantation on the same day.

Discussion

There are many reasons why patients may choose to be seen in Urgent Care, including convenience, urgency of care, and lack of access to primary care services, all of which have been amplified by the COVID-19 pandemic. Patients may use urgent care for acute problems as they present, in place of seeking routine and preventative care in the primary care setting.

In the urgent care setting, providers are less likely to have a patient's medical history and records available, which limits the ability to trend vital signs and to obtain a clinical impression of where baseline vital sign ranges lie. Patients who frequently use urgent care in place of routine well and preventative care may be more likely to have chronic or untreated medical conditions that they are unaware of.

In patients presenting to urgent care, especially older adults, providers should maintain a low threshold for point-of-care workup of abnormal vital signs and nonspecific symptoms such as fatigue. Probing questions, a thorough review of systems, and a review of any available medical records can aid in the identification of atypical disease presentation.

References

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