

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Electrocardiogram Quiz – Case 32

A 23-year-old male with no past medical history was referred to our Department for a presymptomatic testing. The clinical examination and the vital signs of the young man were normal. The 12-lead surface electrocardiogram (ECG) is depicted in figure 1.

Questions

- What abnormalities are depicted on the 12-lead ECG (fig. 1)?
- What is the clinical significance of these abnormalities?

Comment

A sinus pause or arrest is defined as the transient absence of sinus P waves on the ECG that may last from two seconds to several minutes. This abnormality is an alteration in discharge by the sinoatrial (SA) pacemaker; as a result, the duration of the pause has no arithmetical relationship to the basic sinus rate (i.e., the cycle length of the pause is not a multiple of the basic sinus cycle length as would occur with 2:1 or 3:1 SA nodal block). The pause or arrest often allows escape beats or rhythms to occur, but lower pacemakers may be sluggish or even absent in the sick sinus syndrome. Sinus arrest is frequently caused by ischemic, inflammatory, or

infiltrative or fibrotic disease, as well as by high parasympathetic tone due to one or many factors, such as surgical stimulation, impingement upon the vagus nerve (e.g., in neoplasia), respiratory disease and or sleep apnea, drug toxicity, or electrolyte imbalance.

References

- CSEPE TA, KALYANASUNDARAM A, HANSEN BJ, ZHAO J, FEDOROV VV. Fibrosis: A structural modulator of sinoatrial node physiology and dysfunction. *Front Physiol* 2015, 6:37
- JOUNG B, CHEN PS. Function and dysfunction of human sinoatrial node. *Korean Circ J* 2015, 45:184–191

Corresponding author:

E.G. Petrou, Division of Cardiology, "Onassis" Cardiac Surgery Centre, 356 Sygrou Ave., GR-176 74 Kallithea, Greece
e-mail: emmgpetrou@hotmail.com

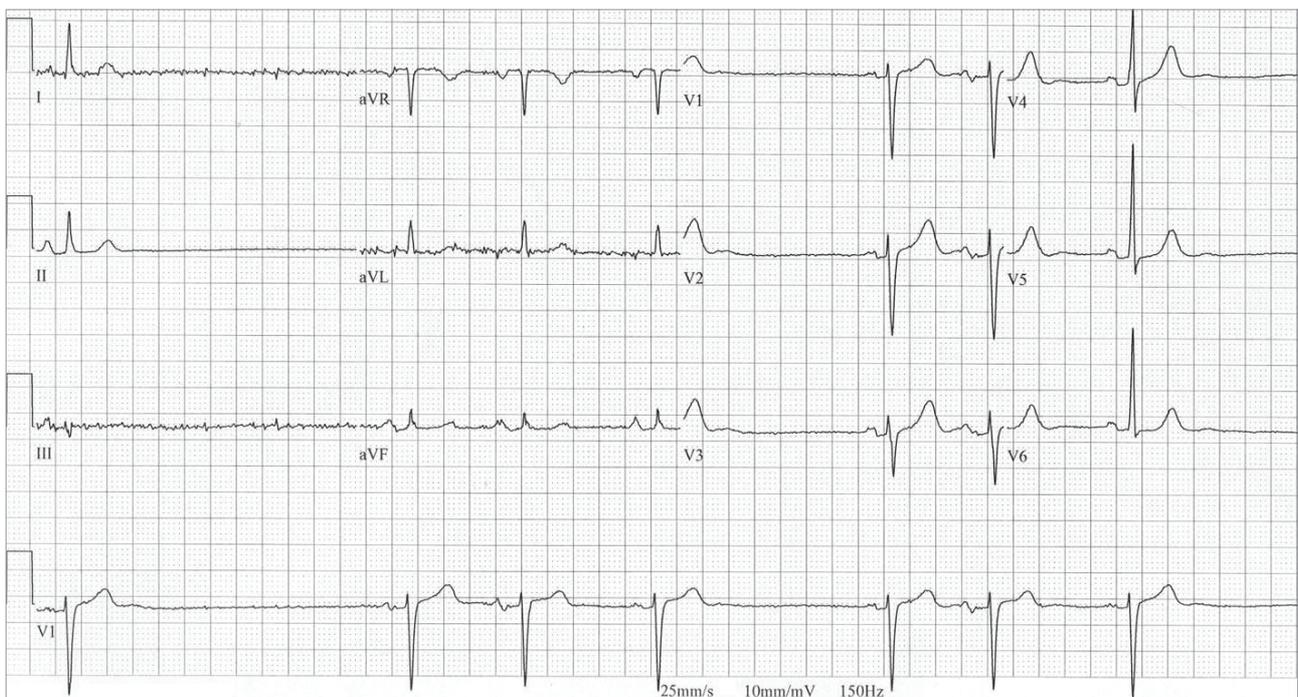


Figure 1

Diagnosis: Sinus arrest