

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Electrocardiogram Quiz – Case 24

A 54-year-old man was admitted to our hospital within the framework of follow-up due to an orthotopic heart transplantation (secondary to dilated cardiomyopathy) 5 years earlier. The patient was hemodynamically stable in an excellent clinical condition. The 12-lead surface electrocardiogram (ECG) is depicted in figure 1.

Questions

- What is the basic rhythm depicted on the 12-lead ECG?
- What could be the reason for any depicted ECG abnormalities?

Comment

The two atrial pacemakers in the patient with a cardiac transplant are separated by a suture line that theoretically should not transmit electrical impulses. In our patient, in whom the donor atrial rate was quite constant, there were long periods in which the recipient P wave had the same rate; this observation suggests

that the donor atrial focus may have had some influence over that of the recipient. At other times the donor and recipient rates were clearly unrelated. Accessory atrial activity can be better seen in lead II at the end of the first complex in the middle between the second and the third complex and after the third complex.

The occurrence of two atrial foci also presents problems in the interpretation of the cardiac rhythm. In our case, at one point in the course two P waves are seen for each QRS. The P-to-P intervals are regular, and although the non-conducted P is normally distorted by the T wave, its configuration looks similar to that of the conducted P wave. In such cases, the differentiation between atrial tachycardia with 2:1 block and synchronized atrial parasystole could not be made from external leads. Placement of a right intra-atrial lead

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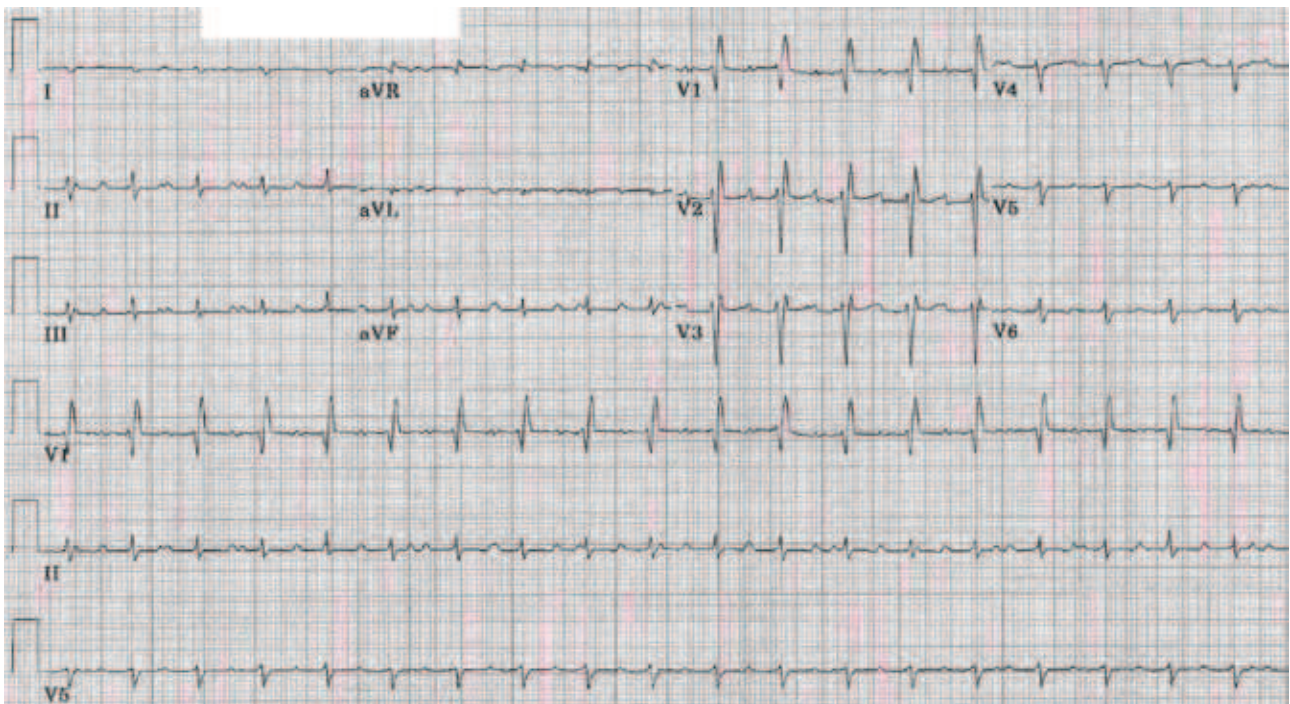


Figure 1

would have probably demonstrated different P wave configurations for the conducted and the non-conducted beats; such a demonstration would have confirmed the presumptive diagnosis of atrial parasystole.

References

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