

ECG Contest

Response to ECG, February 2018



Respuesta al ECG de febrero de 2018

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This was a case of ventricular extrasystoles superimposed on sinus rhythm with P waves blocked by concealed and incomplete penetration of extrasystoles in the bundle of His^{1,2} (correct answer, response 2). **Figure** shows the surface and bundle of His electrocardiograms (A, atrium; H, His; V, ventricle). The patient is in sinus rhythm and the P waves have a relatively constant cycle duration (924 ms) and typical and stable morphology (response 3 and 4, incorrect). Capture of the ventricular extrasystole by the bundle of His leads to suprahisian block of the following atrial pulse (incomplete penetration). The suprahisian block then enables atrioventricular node (AVN) recovery and improved suprahisian conduction in the following pulse (shortening of the A-H interval from 171 to 126 ms). There is no intrinsic defect in conduction, but rather a physiological response of the AVN to incomplete penetration of a ventricular extrasystole (response 1, incorrect).

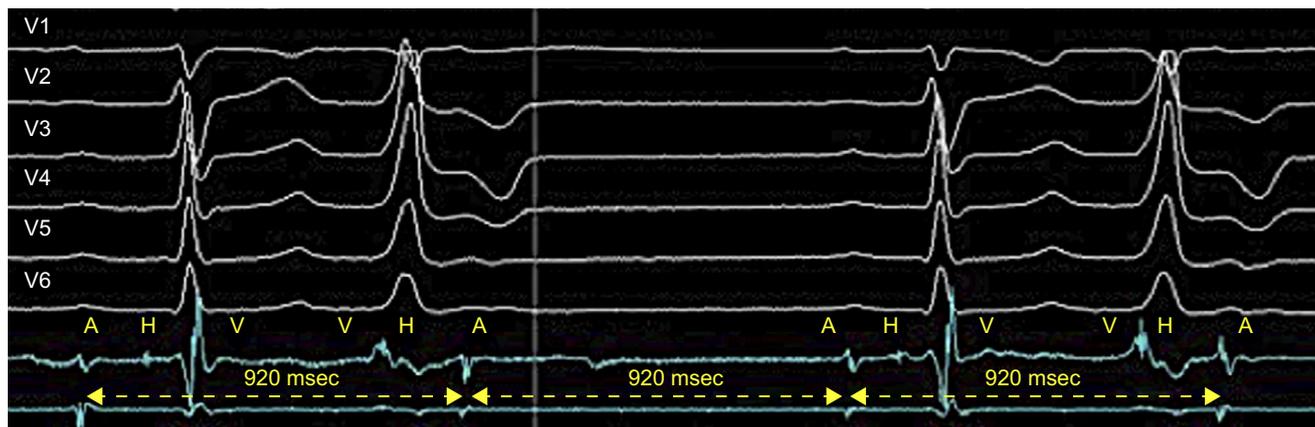


Figure.

REFERENCES

1. Josephson ME. Miscellaneous phenomena related to atrioventricular conduction. In: Josephson ME, ed. In: *Clinical cardiac electrophysiology. Techniques and interpretations* 5 a ed. Philadelphia: Wolters Kluwer Health; 2016:144–147.
2. Langendorf R. Concealed A-V conduction: the effect of blocked impulses on the formation and conduction of subsequent impulses. *Am Heart J.* 1974;35:542.

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<http://dx.doi.org/10.1016/j.rec.2017.10.020>

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