

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Electrocardiogram Quiz – Case 26

A 76-year-old man was admitted to our hospital for a scheduled transcatheter aortic valve replacement (TAVR), due to symptomatic aortic stenosis. After an uneventful procedure the patient was admitted to the intensive care unit for monitoring, in accordance with the relevant protocol. Sixteen hours after admission the treating team recorded an abnormal telemetry tracing. The patient remained hemodynamically stable with normal vital signs. The 12-lead surface electrocardiogram (ECG) that followed is depicted in figure 1.

Questions

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

Comment

Twelve years after the introduction of TAVR, an estimated 90,000 or more of these procedures have been performed around the world. However, the procedure has been associated with the new onset of conduction disturbances, namely the presence of left bundle branch block, atrial fibrillation, and various degrees of atrioventricular block.

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2015, 32(6):805–806

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Complete atrioventricular block (CAVB), which is the case of our patient, and the subsequent permanent pacemaker (PPM) implantation, comprises a complication in an estimated 7.3% of patients undergoing TAVR, a rate significantly higher than the rate 3.4% observed in patients undergoing surgical aortic valve replacement, provided that both groups exhibit similar baseline ECG abnormalities. Interestingly, the rate of PPM implantation also differs, depending on the type of valve implanted: PM implantation ranges between 18% and 49% after CoreValve® placement, as in our patient, and between 0% and 27% after SAPIEN® implantation.

Concerning the etiology of the condition, it is accepted that it is the result of mechanical injury of the AV node, produced from the interior of the aortic annulus, whether surgical or endovascular. Several risk factors, including biomarkers, have been associated with a higher incidence of CAVB after TAVR; however, the results have proved to be inconclusive.

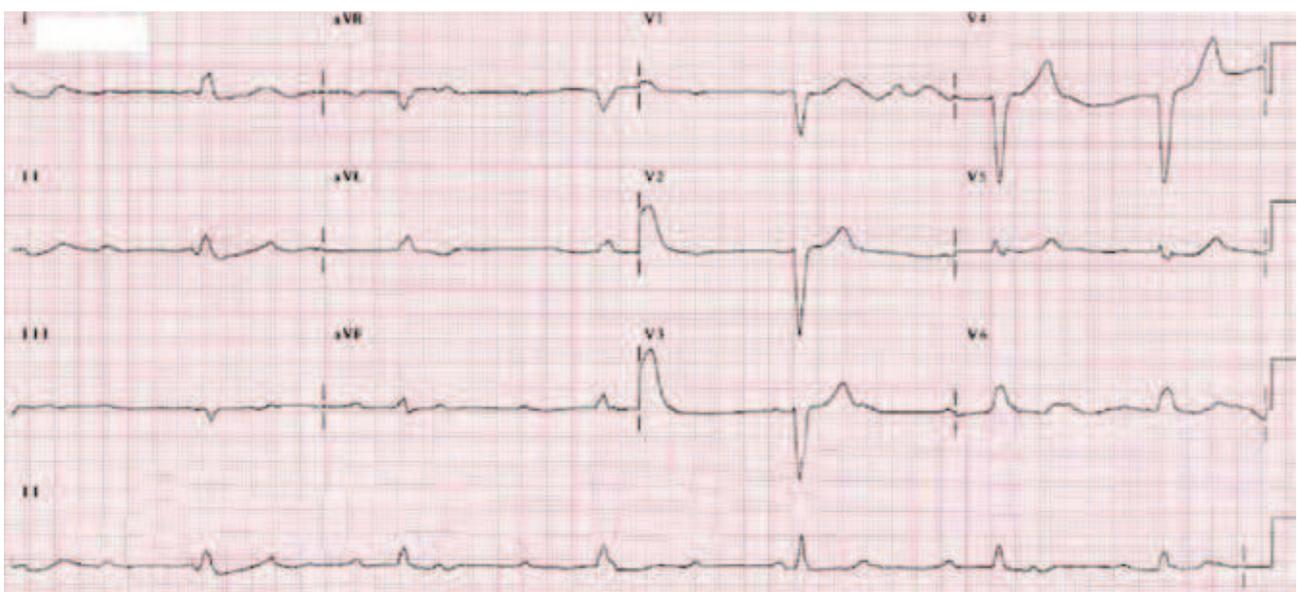


Figure 1

Our patient was transferred to the cath lab where he received a PPM device, and was discharged a few days later with explicit instructions and medications.

References

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