IMAGE

Mitral valve prolapse associated with electrocardiogram abnormalities mimicking acute coronary syndrome

Prolapsus valvulaire mitral associé à des troubles de la repolarisation mimant un syndrome coronaire aigu

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A 28-year-old white man was admitted to our intensive care unit for acute chest pain; he was known to have a MVP and his risk factors were limited to active smoking and a family history of coronary heart disease. The admission ECG showed T-wave inversions and mild ST-segment elevation in the inferior leads (Fig. 1), suggesting an ACS. There were no reciprocal changes (normal ST segment in the anterior leads). Antiplatelet therapy and heparin were initiated. Cardiac biomarkers were negative and after 48 hours ECG abnormalities remained unchanged. Transthoracic echocardiography confirmed the MVP without any wall motion abnormalities or other valvular anomaly (Fig. 2). A cardiac stress test was negative, suggesting the absence of myocardial ischaemia. Afterwards, we found that the results of an ECG done several months earlier were similar. Thus, we concluded MVP associated with inferior repolarization abnormalities. The patient was discharged without medication. Nine months later, the patient remained asymptomatic and the ECG was unchanged.

Since the initial description by Barlow in 1968, MVP is classically known to be associated with chest pain and inferior ECG abnormalities. The suspected mechanisms are vasospasm, papillary muscle ischaemia and microvascular perfusion defect. Electrical abnormalities are emphasized, occurring in inferior leads, leading to the description of the ‘auscultatory-electrocardiographic’ syndrome. Identifying ACS in patients with a history of MVP may be a challenge. The risk of non-diagnosed ACS has to be balanced with the risk of unnecessary coronary angiography. Reference ECG can be key to avoiding misdiagnosis.

Keywords: Acute coronary syndrome; Mitral valve prolapse; T wave abnormalities

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Abbreviations: ACS, acute coronary syndrome; ECG, electrocardiogram; MVP, mitral valve prolapse.
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Figure 1. Electrocardiogram revealing T wave inversions and mild ST-segment elevation on the inferior leads (red arrows).

Figure 2. Transthoracic echocardiography confirming the presence of a mitral valve prolapse (parasternal long-axis view, red arrow).

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

Appendix A. Supplementary data