Third-degree atrioventricular block: tip of the iceberg of a systemic disease

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We report the case of a 56-year-old female patient admitted to the emergency department after an unexplained syncope. The patient had suffered from fatigue, exercise induced chest pain, dyspnea and dry cough for 5 weeks before presentation. The remaining clinical history was unremarkable despite a breast cancer which was successfully treated 13 years ago without any signs of recurrence until now. Laboratory testing showed an elevated pro-B-type natriuretic peptide while cardiac ischemic enzymes were within normal range. The ECG documented a third-degree atrioventricular (AV) block which immediately required pacemaker implantation. Computed tomography (CT) of the heart and chest showed bilateral hilar and mediastinal lymphadenopathy and small nodules in the lung suspicious for the diagnosis of a granulomatous disease such as sarcoidosis, while coronary artery stenosis could be excluded. A subsequent 18F-labelled fluorodeoxyglucose positron emission tomography/CT (18F FDG-PET/CT) was performed to differentiate sarcoidosis from late recurrent metastatic disease. Focal FDG-uptake was depicted in the inferoseptal and anteroseptal myocardium (Panels A and B, arrow). Strong FDG-uptake could also be seen in enlarged lymph nodes bilateral hilar (Panel C, arrowheads and Panel D, arrows), mediastinal, supraclavicular (Panel C, arrow), and epigastric. Moreover, hepatic and splenic lesions (Panel E, arrows) were documented. Finally, endobronchial ultrasound guided biopsy of mediastinal lymphatic tissue revealed the sarcoid typical non-caseating granulomas (Panel F) leading to the final diagnosis of systemic sarcoidosis with cardiac involvement. The patient was successfully treated with steroids and azathioprine. Subsequent follow-up visits showed complete recovery from symptoms as well as from AV block.

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