

¹⁸F-FDG PET scan as follow-up tool for sarcoidosis with symptomatic cardiac conduction disturbances requiring a pacemaker

A 45-year-old man presented to the emergency room after three syncope. ECG showed sinus rhythm with complete right bundle branch block and left anterior fascicle block. Echocardiography and 24 h ECG monitoring were normal. Chest radiography showed small patchy infiltrations and spiro-ergometry tests showed normal carbon monoxide transfer factor but a reduction in physical capacity (maximum oxygen consumption 70%) associated with an effort-related grade II atrioventricular block. An MRI scan of the heart using gadolinium showed enhancement at the anteroseptal level (fig 1A), and ¹⁸F-FDG positron emission tomography (PET)

showed focal uptake at exactly the same location (fig 1B). Transbronchial biopsy specimens showed typical granulomas and bronchoalveolar lavage revealed lymphocytosis of 26% and a CD4/CD8 quotient of 7.5, both compatible with sarcoidosis.

A DDD pacemaker was implanted and steroid treatment was started. Since MRI was no longer feasible because of the pacemaker, an ¹⁸F-FDG PET scan was performed at 3 months follow-up (fig 1C) which showed complete disappearance of the focal uptake. These changes correlated with disappearance of the chest radiographic findings and recovery from the grade II effort-dependent

Learning points

- Monitoring cardiac involvement of sarcoidosis without clear structural changes can be difficult and, if a pacemaker is needed, an MRI scan of the heart cannot be used as a follow-up tool.
- An ¹⁸F-FDG PET scan seems to correlate very closely with the granulomatous inflammation and is therefore promising as a follow-up tool to guide immunosuppressive treatment.

atrioventricular block with an increase in maximum oxygen consumption from 24.9 to 33.3 ml/kg/min.

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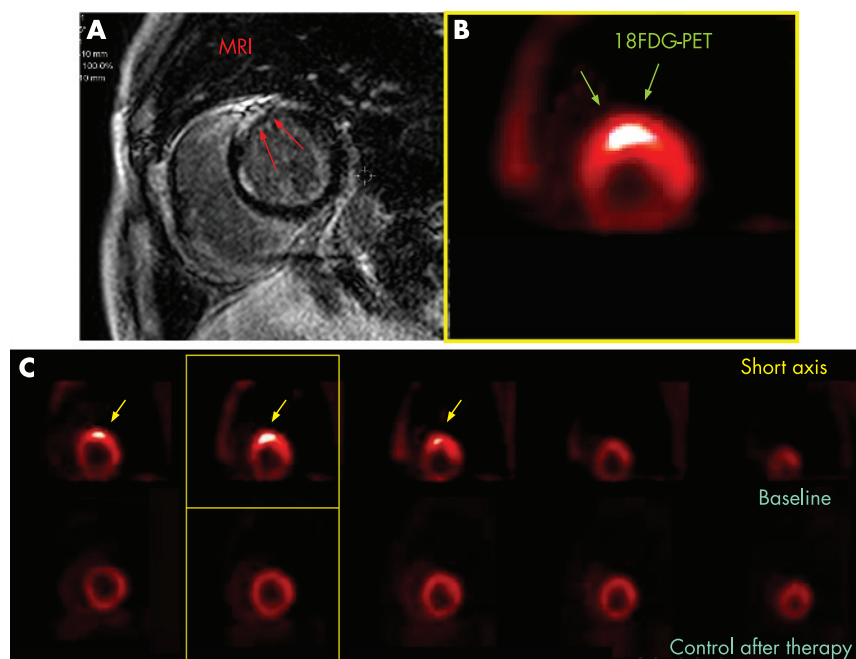


Figure 1 (A) Gadolinium-enhanced MRI scan of the heart (short axis) showing delayed enhancement in the anteroseptal myocardium. (B) ¹⁸F-FDG positron emission tomography (PET) scan of the heart (short axis) showing focal uptake in the anteroseptal wall (same location as MRI scan) corresponding to granulomatous inflammation. (C) ¹⁸F-FDG PET scan of the heart (short axis) from the base to the apex (from left to the right) showing focal uptake in the anteroseptal wall at baseline (upper series) and disappearance of the uptake after treatment (lower series). Images marked in yellow correspond to the MRI image in (A).

References

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