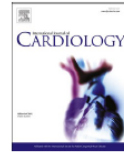




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## Long term prognosis in cardiac sarcoidosis under FDG-PET guided immunosuppressive therapy

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### ABSTRACT

**Background:** Cardiac sarcoidosis (CS) is a granulomatous disease that can lead to heart failure and fatal arrhythmias. While <sup>18</sup>F-fluorodeoxyglucose-positron emission tomography (FDG-PET) is useful in assessing active inflammation, its role in guiding immunosuppressive therapy and predicting long-term prognosis remains unclear.

**Methods:** This retrospective study analyzed 36 CS patients who underwent FDG-PET-guided immunosuppressive therapy between 2012 and 2017. FDG uptake was quantitatively evaluated before treatment, at 6 and 12 months, and annually thereafter. Prognostic outcomes, including major adverse cardiac events (MACE) and mortality, were assessed.

**Results:** Over a median follow-up of 8.2 years, 11 patients experienced MACE, and 7 died. SUVmax at 6 months (six-M SUVmax) and 1 year (one-y SUVmax) significantly correlated with prognosis. Patients with one-y SUVmax >4.5 had a higher risk of adverse events ( $p < 0.0001$ ), while patients with six-M SUVmax >3.5 had a higher risk of adverse events ( $p = 0.035$ ). Lower left ventricular ejection fraction (LVEF <40 %) was also associated with worse outcomes. Those requiring a final prednisolone (PSL) dose  $\geq 10$  mg had increased mortality ( $p < 0.0001$ ).

**Conclusion:** FDG-PET-derived SUVmax at 1 year is a critical prognostic indicator in CS patients undergoing immunosuppressive therapy. Poor response to PSL, indicated by persistent FDG uptake, correlates with worse outcomes. Regular FDG-PET monitoring and personalized treatment strategies are essential to optimizing long-term management.



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## Evolving strategies in the diagnosis and management of cardiac sarcoidosis: A focus on isolated forms

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