Heart rate and ejection fraction as prognostic markers in recurrent pericarditis

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Background: Heart rate (HR) and left ventricular ejection fraction (LVEF) are both important markers in assessing symptom improvement in patients with recurrent pericarditis (RP). However, their prognostic significance in predicting RP outcomes remains largely unexplored, as no prior studies have investigated this relationship.

Methods: Patients with RP were identified from a pericardial database covering the period between 2012 and 2019. The outcome of interest was clinical remission, which was defined as the resolution of symptoms without any further recurrences after discontinuing all anti-inflammatory therapies.

Results: A total of 365 patients were included in this study, of which the majority were females (56%) and less than 55 years old (68%). The mean number of recurrences at baseline was ≥4 in 158 (43%) of patients. The time to clinical remission was 24 months in the low HR group (HR ≤ 70 bpm), 60 months in the moderate HR group (HR: 71-90 bpm), and could not be determined for the high HR group (HR ≥ 90 bpm) due to few events. Patients with LVEF < 60% took 56 months to achieve clinical remission, compared with patients with LVEF ≥ 60%, who took over 60 months. Multivariable analysis revealed that patients in the high (HR: 0.22, 95% CI: 0.09-0.51, p<0.001) and moderate (HR: 0.39, 95% CI: 0.21-0.75, p=0.005) HR groups were less likely to achieve clinical remission than those in the low HR group. Similarly, patients with LVEF ≥ 60% were less likely to achieve clinical remission than those with LVEF < 60% (HR: 0.54, 95% CI: 0.36-0.80, p=0.002).

Conclusion: Both HR and LVEF play important roles in prognosticating outcomes in patients with RP. The significance of both markers can be attributed to the heightened shear stress on the pericardium, which can exacerbate inflammation.
Multivariable analysis