Abstract

Background: Acute rheumatic fever (ARF) with carditis can lead to the development of rheumatic heart disease in children and young adults.

Objective: This study aimed to investigate the manifestations of rheumatic carditis, clinically significant regression of valvular regurgitation as assessed by echocardiography, and the independent predictors of mitral regurgitation (MR) improvement after rheumatic carditis in Thai children.

Method: Children diagnosed with rheumatic carditis during 2005-2020 at Siriraj Hospital (Bangkok, Thailand) were retrospectively enrolled. No, trivial, and mild regurgitation were grouped as non-clinically significant (NCS) regurgitation. Valvular regression was defined moderate-severe regurgitation improving to NCS regurgitation.

Results: Eighty-one patients (mean age: 10 years, range: 8-12 years) were included. At presentation, 59 (72.8%) patients had combined mitral regurgitation (MR) and aortic regurgitation (AR), 20 (24.6%) patients had MR alone, and 2 (2.4%) patients had AR alone. Concerning severity, 28 (34.6%) and 30 (37%) patients presented with severe and moderate MR, respectively. Severe and moderate AR was found in 9 (11.1%) and 16 (19.8%) patients, respectively. At the one-year follow-up, 43.4% of moderate-severe MR, and 41.7% of moderate-severe AR improved to NCS regurgitation. Multivariate analysis revealed high erythrocyte sedimentation rate (ESR) (p=0.02) and larger left ventricular end-diastolic diameter (LVEDD) (p<0.01) at presentation to be independent predictors of MR improvement.

Conclusion: Thai children with rheumatic carditis had a high incidence of valvular regurgitation; however, the valvular damage was improved in most patients. High ESR and large LVEDD independently predict MR improvement.