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Factors affecting the short term prognosis of patients with Acute Rheumatic Carditis

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Objective: The aim of the study is to evaluate the factors contributing the short term prognosis of patients that have acute rheumatic carditis with laboratory findings, electrocardiography, echocardiography and flow cytometric findings at the initial phase of the diagnosis.

Methods: Twenty-two patients with acute rheumatic carditis were enrolled in this study. Patients matched with 20 apparently healthy child, there were no significant differences between groups ($p>0,05$). All children were evaluated with echocardiography according to ASE guidelines including Tissue Doppler Imaging, electrocardiography and flow cytometric study from peripheric blood sample conducted at the initial phase of the diagnosis.

Results: Echocardiographic finding revealed that 68.2% of patients have combined valvular regurgitation, 22.7% have isolated mitral valve regurgitation and 9.1% have isolated aortic regurgitation. Echocardiographic measurements; LVEDd, LA volume index, LA/Ao, mitral valve E, E/Ea were increased in patient group ($p<0,05$). TDI measurements Mitral valve lateral Sa and Ea were decreased significantly ($p<0,05$). Flowcytometric measurements revealed lymphopenia in 7/22 (31.8%) patients. CD3 and CD4 lymphocytes were decreased simultaneously in 9/22 (27.3%) patients. CD3, CD4 and CD8 levels were decreased in 3/ 22 (13.6%) patients. Echocardiographic re-examination after 6 months of diagnosis revealed that patients without healing valvular regurgitation had increased CD4/CD8 ratio at the initial phase of the diagnosis but this result was statistically insignificant. Serum albumin levels were significantly decreased at non-healing group ($2,6\pm0,5$ gr/dl vs $3,3\pm0,5$ gr/dl).

Conclusions: Our findings showed us that increased LA volum index and mitral valve E/Ea ratios is obvious in acute rheumatic carditis. Flow parameters from TDI, initial ASO titration, elevated ESR, decreasing at Hb level or lymphopenia at flowcytometry and CD3, CD4, CD8 and NK levels have no prognostic value. Patients with initial hypoalbuminemia showed no regression of cardiac findings after following for six months. Although patients with high CD4/CD8 ratio have a poorer prognosis, this finding wasn't statistically significant. This finding was may be due to a smaller size of our patient group. Consequently, we suggest initial serum albumin levels and high CD4/CD8 levels as predictors of severity of cardiac involvement in the short term follow-up period of acute rheumatic carditis.