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## Significance of Tenascin-C in Diagnosis of Chronic Rheumatic Heart Disease

*Karatas Z. (1), Baysal T. (1), Sap F. (1), Altın H. (1), Cicekler H. (2)*
*Konya University Meram Medical Faculty, Department of Pediatric Cardiology, Konya, Turkey (1)*
*Konya University Meram Medical Faculty, Department of Biochemistry, Konya, Turkey (2)*

Introduction: The differential diagnosis of valve insufficiency, either rheumatic or congenital, may not be allways possible. Besides silent carditis, patients with congenital valve disease have also risk of developing chronic rheumatic heart disease (CRHD). Tenascin-C (TnC), an extracellular matrix glycoprotein, increases in inflammatory diseases. The balance between the oxidant and antioxidant systems is found to be impaired in many inflammatory diseases and also CRHD is a chronic inflammatory disease. The aim of this study was to assess the role of TnC in the differential diagnosis of rheumatic and congenital valve diseases, and also to evaluate the oxidant-antioxidant system in childhood.
Methods: The study groups, aged 3-17 years, consisted of 25 children with CRHD, 25 children with congenital valve disease and 20 healthy age-matched control subjects. Total antioxidant status (TAS), total oxidant status (TOS), oxidative stress index (OSI) and TnC levels were compared among the groups. Chi-square, ANOVA and Mann whitney-U tests were used for statistical analysis.
Results: In children with CRHD, with a mean age of 13.52±2.71 years, the percentages of mitral and aortic regurgitations were found 88% and 40% respectively. Mitral valve prolapse (n=14) and bicuspid aorta (n=11) were present in patients with congenital valve disease (n=25; mean age=10.91±4.19 years). Mean TnC level of the patients with CRHD was significantly higher than congenital ($p<0.01$) and control groups ($p<0.05$). However, there was no statistically significant difference between the congenital and control groups in terms of TnC. The values of TAS, TOS and OSI were found to be statistically similar ($p>0.05$) in all groups.
Conclusions: Tenascin-C can be used as a biochemical marker in the differential diagnosis of CRHD from congenital valve diseases. As the oxidant and antioxidant systems were found to be in equilibrium in chronic rheumatic and congenital valve diseases, oxidative stress can be thought not to have a marked role in the etiopathogenesis of CRHD.

Key words: Children, chronic rheumatic heart disease, congenital valve disease, tenascin-C, total antioxidant status, total oxidant status.