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Evaluation of Serum Ischemia Modified Albumin Levels in Children with Acute Rheumatic Fever Before and After Therapy

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Objective: The aim of the study was to investigate ischemia modified albumin (IMA) levels in children with acute rheumatic fever (ARF) before and after therapy and compare them with those of controls.

Methods: 27 patients with ARF and 18 healthy children, age and sex matched were included in our study. The diagnosis of ARF was established according to the modified Jones Criteria. Follow-up studies were made at the time of acute phase reactants levels returned normally. IMA levels were measured using the rapid and colorimetric method with the albumin cobalt binding test. CRP, erythrocyte sedimentation rate (ESR) and white blood cell (WBC) were estimated by routine methods.

Results: Children with ARF had significantly higher serum ESR, CRP and IMA levels than same parameters of the controls at the time on admission. IMA (ABSU) was measured as 0.41 ± 0.10 in the control group, 0.57 ± 0.9 in the study group before treatment and 0.48 ± 0.12 in the study group after treatment. After treatment, statistically important decrements were determined in the levels of ESR ($p < 0.001$), CRP ($p < 0.001$) and IMA ($p < 0.001$). There was no significant difference for IMA levels between after treatment and control group ($p > 0.05$). IMA levels at the time on admission were correlated positively with ESR ($r = 0.605$, $p < 0.01$) and CRP ($r = 0.543$, $p < 0.01$).

Conclusion: We concluded that increased IMA levels in patients with ARF at the time of diagnosis could be considered as a sign of increased inflammation. We also suggested that IMA levels could be used as a follow-up marker such as CRP and ESR for to evaluate the efficacy of treatment in ARF.

Key words: Acute rheumatic fever, ischemia modified albumin, inflammation, treatment.