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Title: The influence of TNFα gene polymorphism on the therapeutic response in patients with sarcoidosis

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Body: Sarcoidosis is an inflammatory disease of unclear etiology, with genetic factors playing a considerable factor in both its onset and clinical presentation. In the majority of patients, the disease goes away spontaneously, without treatment. However, longer therapy is necessary in a small number of patients. The aim of this research was to determine the role of TNF-α-308G/A polymorphism in the therapeutic response in patients with sarcoidosis. The research encompassed 66 patients with sarcoidosis, 44 of whom were females and 22 were males, of average age 51,17±11,22, who were treated for sarcoidosis at the Clinic for Lung Diseases Niš. TNFα-308 G/A gene polymorphism was examined in all patients using the PCR-RFLP method. Results: 10 patients received no treatment, 48 patients underwent corticosteroid treatment, while 8 patients received combined treatment using corticosteroids and methotrexate. No statistically significant difference in the distribution of TNF-α gene polymorphism genotypes and alleles was detected between the patients receiving corticosteroid treatment and those without treatment. However, the duration of the treatment was statistically considerably lower in patients belonging to AA genotype group (14.83±9.77) when compared to those from GG genotype group (18.03±10.56), $p<0.05$. Conclusion: Previous research showed that the presence of TNF-308A allele is a good prognostic sign of sarcoidosis, as it is coupled with the acute form of the disease and the absence of recidives. Our results indicate a great pronostic significance of this allele, given that its presence could predict a favorable outcome of the disease and a shorter duration of treatment.