

THE ROLE OF HUMAN 70 KD HEAT SHOCK PROTEIN AS RISK FACTOR IN IMMUNE RESPONSE OF RHEUMATOID ARTHRITIS PATIENTS IN THI-QAR PROVINCE, SOUTHERN OF IRAQ

MAOTASEM WDAAH AL-SALIH

Biology Department College of Education for Pure Science

ABSTRACT

Heat shock proteins or HSPs are treated under different kinds of stress conditions and act as molecular chaperones for protein molecules. As these proteins were first found in cells that were exposed to high temperature levels, they are called "heat shock proteins". Several risk factors are known to be involved in the pathogenesis of autoimmune rheumatic diseases, including genetic factors, smoking, chronic infections, sex hormones and stress.

Stress is now considered as an important risk factor in the pathogenesis of rheumatoid arthritis by considering the activation of the stress response of the immune system. This study deals with the investigation about the role of heat shock protein 70 in pathogenesis and immune response in RA. The sample of the study includes 145 patients with RA. These patients were tested for four or more of the criteria of the 2010 American College of Rheumatology, the sample of control in the study include 60 persons who were actually health volunteers.

This study shows a high level of statistical significance ($P < 0.00$). When we measured concentration of HSP70 on samples between the test group and control group, we understand that there is high level of statistical significance between the test groups ($P < 0.05$) based on the gender and this study shows high significant difference between subgroups of patients such as smokers, non-smokers, stressed, non-stressed and the low economic status e.t.c.

Conclusions

Some of the environmental factors such as smoking, stress, other chronic infections, duration of disease, age and sex reactive with genetic factors play an important role in the determination of immunological marker in patients with RA.

KEYWORDS: Rheumatoid Arthritis, Heat Shock Protein 70, Smoking, Stress, Immune Response