

Estimation of IgM & IgG values in the serum after intravenous irradiation of blood with diode laser

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Summary

The present study is designed to evaluate the effect of low level laser irradiation on the immune system when administered intravenously. (16) Adult local rabbits used in this study, they were divided in to two equal groups (control & treated with low level laser) they were anaesthetised generally and the site of the operation which was the medial aspect of the left thigh prepared to reach the femoral vein from where blood samples obtained from all the animals and considered as (standard readings). The blood of the animals of the treated group irradiated with a diode laser, its energy reached the blood via a fibre optic introduced to the femoral vein through a fine canula fixed in its end, after that a fine catheter fixed in to the femoral vein of all the animals and blood samples obtained for the periods (0.5, 1, 2, 2.5, 3, 6, 9, 12, 15, 18, 21, 24 hours) from the beginning of the operation in the control group and after irradiation of the blood in the treated group. The readings obtained for the periods from (0.5- 12 hours) revealed gradual significant increase in the level of the immunoglobulines (IgM & IgG) in the serum followed by a plateau continued to the readings of (21 hours), and little decrease at the readings of (24 hours). The study showed that irradiation of the blood enhanced the immunological properties significantly and this appeared through the increase of the level of the (IgM & IgG) which are the most important members in the primary and secondary immunological response respectively.

Introduction

The immune system protects the body against the effects of a great variety of foreign cells and substances, the response of the immune system to these assaults involves interaction between the ones own and foreign cells That are mediated by foreign antigens and cellular receptors,(David,1996),(1)

Cellular receptors found on membranes of lymphocytes (B & T), they bind to foreign antigens, B- cell recognition molecules are called immunoglobulines or antibodies, (Warren & Ernest, 1998).(2).

The main immunoglobulin classes are IgG, IgM, IgE, IgA & IgD, IgM is the

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