



# Altered renal immune complexes deposition in female BWF1 lupus mice following *Plasmodium chabaudi* infection

Mostafa A. Abdel-Maksoud, Fathy A. Abdel-Ghaffar, Azza El-Amir, Gamal Badr, Saleh Al-Quraishy.

## Abstract:

Systemic lupus erythematosus (SLE) is a prototypic autoimmune disease that has a mysterious relationship with malaria infection. The current study was designated to compare between the effect of the live and the gamma irradiated *Plasmodium chabaudi* infection on BWF1 lupus murine model. A total of 30 female BWF1 mice were randomly divided into three groups (10 mice/group) as follows: group (I) lupus group (lupus non infected); group (II) live malaria infected group (lupus + live malaria infection); and group (III) irradiated malaria-infected group (lupus + gamma irradiated malaria infection). Live *P. chabaudi* infection was accompanied with a decrease in survival rate and food consumption in comparison to the control group of mice while gamma irradiated *P. chabaudi* -infection was unable to do this effect. Additionally, live *P. chabaudi* infection was accompanied with an increased level of proteinuria and increased rate of immune complexes deposition in kidney. Moreover, infection with live, but not gamma -irradiated *P. chabaudi* was accompanied with an increase in nitric oxide (NO), hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), and Malondialdehyde (MDA) levels in plasma of lupus mice. The levels of both total cholesterol and triglycerides in plasma of lupus mice after live *P. chabaudi* infection were obviously decreased in comparison to the control group. On the other hand, gamma-irradiated *P. chabaudi* infection was resembling the control group. Our data revealed that infection of lupus mice with live but not gamma-irradiated *P. chabaudi* has several histological and biochemical effects.

## Keywords:

Lipid peroxidation; Oxidative stress; *Plasmodium chabaudi*; Redox imbalance; SLE

## Published In:

Saudi Journal of Biological Sciences , 25(8) , 1609- 1616