A New Antimalarial Agent from Beta vulgaris Betalain Pigments in the Experimental Mice

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Abstract:
Malaria is responsible for around half million people dying yearly and it is hard to destroy because the resistance of *Plasmodium* parasite to most of the anti-malarial chemical drugs, that proving to be a challenging problem in malaria control. This underscores the continuing need for the discovery and development of new effective and safe antimalarial drugs.

Objectives:
1. To investigate the antimalarial activity of *Beta vulgaris* Betalain pigments in the early stage of *Plasmodium berghei* infection.
2. To evaluate the efficacy of the best inhibitory concentration of Betalain pigments in stable *Plasmodium berghei* infection.

Methodology:
The *in vivo* Antiplasmodial activity of Betalains of *Beta vulgaris* aqueous extracts in mice infected with *Chloroquine sensitive Plasmodium berghei* was studied against early infection, each mice group were administered separately in concentrations of Betalains 30, 50, 70 mg/kg comparing with distilled water and 5 mg/kg Chloroquine as positive control. The best inhibitory concentration was evaluated against stable infection.

Results:
Betalains (70 mg/kg) showed the best inhibition activity with 87.70% while Betalains (50 mg/kg) gave 69.64% inhibition level in the early infection (suppressive test). In the stable infection, Betalains (70 mg/kg) showed activity with 58.74% while 5 mg/kg Chloroquine gave 57.47% comparing with -44.63% in distilled water.

Conclusion:
This effort provides a stimulus to conduct further investigation to examine Betalains active components as malaria inhibitor combinations.

Biography:
Haleema Albohiri is a PhD student at King Abdulaziz University, has obtained MSc in Parasitology in 2015, she teaches as a lecturer at University of Jeddah. She published articles and working in other articles in blood parasites and antimalarial agents. She is honored in 2016 golden medals and Honor of invention certificate from Euroinvent and WIIPA, she got the outstanding innovation from Association of Thai Innovation and Golden medal from Japan Design and Invention Expo 2019 and Golden Medal from The 5th International Invention Innovation Competition in Canada, iCAN 2020.

Organization / University Logo: King Abdulaziz University , University of Jeddah



