

OXGEN-RESPONSE EFFECTS ON ISOLATED BLOOD PARAMETERS IN ADULT MALE WINSTAR RATS AFTER CHRONIC INTRAPERITONEAL ADMINISTRATION OF ALLIUM SATIVUM CRUDE EXTRACT. A PROSPECTIVE STUDY FOR HEMATINIC HERBAL DRUGS

Hypothesis / aims of study

Garlic's crude extract has no ability to enhance circulating blood oxygen levels in vivo.

This study examined Dose-Response effects of *Allium sativum* on a few selected blood parameters in peripheral circulation in Wistar rats for a period of 30 days. The aim of the study was to determine whether the active compounds in *Allium sativum* crude extract have any significant increase in blood's oxygen transportation levels in vivo, for possibilities of having Hematinic drugs, or possible isolation and addition of these compounds into conventional Hematinic drugs to formulate more potent Hematinic drugs to alleviate the different forms of Anemia and other blood disorders related to oxygen.

Study design, materials and methods

Wistar rats were randomly selected and used for the study. Blood was withdrawn from the femoral vein of each animal every 7th day. Blood smears were prepared. Full hemogram using the Culter-Counter System was utilized with focus on the parameters of interest. Red blood cell count, Hematocrit, Hemoglobin levels and Reticulocyte counts were done.

Results

There was statistical significant difference between the control group and the experimental groups (Red blood cell count (RBC=77%), Hematocrit (Htc=71%), Hemoglobin levels (Hb=68%) and Reticulocyte counts (Retic=63%). Conversely, sigmoid dose-response curves for PCV and Hb levels, and an exponential growth curves in RBC and Reticulocyte counts between the groups. Descriptive data was compounded using SPSS.

Interpretation of results

Garlic's crude extract was shown to have significant increase in peripheral circulating oxygen in vivo. Oxygen delivery was enhanced as depicted by the results of the parameters studied. The increment of these parameter is directly proportional to increased Erythropoiesis, and hence oxygen.

Concluding message

The study showed a positively significant effect on the selected blood parameters. This could be a milestone break through towards dealing with blood Anemias and disorders.

Disclosures

Funding: Higher Education Loans Board (HELB), Kenya. **Clinical Trial:** No **Subjects:** ANIMAL **Species:** Wistar Rats **Ethics Committee:** Kenya Methodist University Ethics Committee