

**“TOXICOLOGICAL EVALUATION OF ETHANOL LEAF EXTRACT OF
CATHARANTHUS ROSEUS (L) G. DON IN BLOOD AND KIDNEY TISSUES OF
WISTAR RATS”**

MERCY GOSPEL AJURU; G. AJURU; F. W. NMOM; C. W. WORLU; A. IBIYE

ABSTRAC

This research was carried out to evaluate the toxicological effect of ethanol leaf extract of *Catharanthus roseus* (L). G. Don, in blood and kidney tissues of Wistar albino rats. Single oral doses of the ethanol leaf extract at the concentrations 0, 1900, 3000, and 5000 mg/kg was administered to albino rats to determine the acute toxic effects and the median lethal dose (LD50) in the rats. Blood samples were collected by cardiac puncture and analyzed for the hematological study. The kidney was collected, sectioned and viewed under the microscope for histological study. The results revealed no significant changes in the control group but in the treatment group, there were changes such as dizziness, tremors and restlessness especially in treatment group D. The hematological evaluation revealed no significant effects on red blood cells (RBC), Mean Corpuscular Hemoglobin (MCH), Red Blood Cell Distribution Width (RDW), and hemoglobin value to the treated rats in Group B (1900mg/kg) and C (3000mg/kg) when compared to the control, except in treatment Group D (5000kg/mg), which showed significant effects. Histopathological examination showed normal kidney tissues in group A, mild changes of degeneration in Bowman's capsule with mild necrotic proximal and distal tubules were observed in group B, Severe Necrotic changes in Proximal and distal tubules and total degeneration of Bowman's capsule in group C, and Total degeneration of Proximal and distal tubules and Bowman's capsule of the albino rats were observed in group D (5000mg/kg). The obtained results indicated that the LD50 of the ethanol leaf extract of *C. roseus* is slightly higher than 5000mg/kg. Further studies aimed at corroborating these observations are recommended.

KEYWORDS

Ethanol leaf extracts, Catharanthus roseus, Albino rats, Hematological study, Histo-pathological study.

AUTHOR'S AFFILIATION

MERCY GOSPEL AJURU

Department of Plant Science and Biotechnology, Faculty of Science, Rivers State University, Nkpolu-Oroworukwo, P. M. B. 5080, Rivers State, Nigeria

G. AJURU

Department of Anatomical Pathology, Faculty of Basic Medical Science, University of Port Harcourt Teaching Hospital, Choba, Port Harcourt, Rivers State, Nigeria

F. W. NMOM

Department of Plant Science and Biotechnology, Faculty of Science, Rivers State University, Nkpolu-Oroworukwo, P. M. B. 5080, Rivers State, Nigeria

C. W. ` WORLU

Department of Plant Science and Biotechnology, Faculty of Science, Rivers State University, Nkpolu-Oroworukwo, P. M. B. 5080, Rivers State, Nigeria

A. IBIYE

Department of Plant Science and Biotechnology, Faculty of Science, Rivers State University, Nkpolu-Oroworukwo, P. M. B. 5080, Rivers State, Nigeria