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BOOK OF ABSTRACTS

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THEME

Catalyzing National Development through Biochemistry and Molecular Biology

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MDP-122: Dihydrotestosterone, Antioxidant and Histological observations in Prostate Hyperplasic Rats Fed with *Garcinia kola* Seed Extracts

*Odiba, Joseph K. and Iweala, EmekaE.J.
Department of Biological Sciences, Covenant University, Ota, Ogun State, Nigeria.
*Corresponding Author
Email: joseph.odiba@covenantuniversity.edu.ng
Phone: +2349098070460

Abstract

Background: Benign prostate hyperplasia, a non-cancerous progressive age-related urological disorder has been on the increase over the past few decades. Orthodox medication have proven to be effective but side effects such as erectile dysfunction and loss of libido limits their use. This study focuses on discovering another remedy with lesser side effects.

Materials and Method: Thirty (30) male albino wistar rats with an average weight of 250±20g were used for the experiment. BPH was induced by subcutaneous injection of testosterone propionate dissolved in olive oil at a dose of 3mg/kg body weight for 28 days. The crude extracts of seeds of *Garcinia kola* were prepared using the method described by Harbone (1973). Total DHT concentration and other biochemical tests were determined using the manufacturer's instruction in the immunoassay (ELISA) kits from Rapid Diagnostics. Statistical Package for Social Sciences (SPSS) 13, was used for the data analysis. Results were expressed as the Mean ± S.E.M and tests of statistical significance were carried out using one-way analysis of variance (ANOVA). Statistical significance was defined as $P < 0.05$.

Results: Results from analysis of biomarkers and tissue histology showed a significant reduction ($P < 0.05$) in DHT, GSH, lipid peroxidation and a considerable improvement in prostate tissues in the treatment groups. There was also a significant difference in the prostate weights.

Conclusion: These findings indicate that consumption of *G. kola* can prevent/suppress the development of BPH and can be useful in its treatment and management. However, more in-depth research needs to be carried out to ascertain the therapeutic phytochemicals and their mechanism of action.

Keywords: Benign Prostate Hyperplasia, Dihydrotestosterone, *Garcinia kola*, Antioxidant, Histology.

NAN-001: The Efficacy of Polyethylene Glycol- Modified Nanocarrier of Diminazene Aceturate in *Trypanosoma Brucei Brucei*- Infected Albino Rats

[1,2]Shittu, Oluwatosin K., [1]Ojo, Janet A. and [1]*Bashir, Lawal
[1]Department of Biochemistry, Tropical Disease Research Unit, Federal University of Technology, P.M.B. 65, Minna, Nigeria
[2]National School of Tropical Medicine, Baylor College of Medicine, 1102 Bate Avenue. Houston, Tx 77030
*Corresponding author
Email: bashirlawal12@gmail.com
Phone: +2348165112378

Abstract

Background: The use of nanoparticles in the delivery of drugs in systems enhance efficacy. The use of *Hyptis suaveolens* aqueous leaf extract in the biosynthesis of gold nanoparticles and its capability as drug carrier using polyethylene glycol (PEG) as a coat in the formulation of nano drug for treatment of *trypamosomiasis* were investigated.

Materials and Methods: Drug conjugation was carried out by adding gold nanoparticle to PEG and diminazene aceturate. Twenty one (21) albino rats were grouped into seven of three rats each. Negative control group were not treated while the positive control group was treated with standard drug, and other groups were treated with different conjugated drug release time. The blood and livers were analyzed for enzyme activity (transaminases and alkaline phosphate) and hematological parameters.

Results: There was a decrease in the number of parasite count after treatment with formulated drug. The serum enzyme activities of the infected and treated with different conjugated drug release time and standard drug were significantly decreased ($p<0.05$) when compared with the infected untreated group. Anaemia condition was confirmed in the infected untreated group as measured by significant alteration ($p<0.05$) in some hematological parameters when compared with other groups. There was a significant reduction ($p<0.05$) in enzyme activities of rats treated with nano formulated drug as compared with rats treated with free drug.

Conclusion: Polyethylene glycol can be considered a nano carrier for diminazene aceturate for improved drug delivery in African *trypamosomiasis*.

Keywords: *Hyptissuaveolens*, Polyethylene glycol, Diminazene aceturate, *Trypamosomiasis*, Hematology.