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Molecular detection of *Plasmodium* species in four South-South States of Nigeria

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This study investigated the *Plasmodium* species polymorphism in the four South- South states of Nigeria (Bayelsa, Rivers, Edo and Delta). Eight hundred and forty six (846) subjects participated in the study. Malaria parasites identification was carried out using standard parasitological techniques. Genotyping of *Plasmodium* species was carried out by Polymerase Chain reaction.. Species polymorphism was determined by nested PCR. Results showed that the prevalences of malaria infection by states were 78.1%, 68.8%, 62.8%, and 58.8% in Bayelsa, Rivers, Edo, and Delta respectively. Children below the age of 5years were more susceptible to infection ($P < 0.01$). Species polymorphism were *Plasmodium falciparum* (Pf) (39.2%), *Plasmodium vivax* (Pv) (8.8%), and *Plasmodium ovale* (Po) (17.0%). In the four South-south states, Bayelsa had the highest prevalence of *Plasmodium falciparum* (62.5%), followed by Delta (47.4%), Rivers (40.5%) and the least prevalence from Edo state, also Edo state had the highest prevalence of *Plasmodium vivax* (11.3%) followed by Delta 9.3%, Rivers 9.2% while Bayelsa had the least prevalence 0%, also Bayelsa had the highest prevalence of *Plasmodium ovale* (22.5%) followed by Rivers 18.3%, Delta 15.5% and Edo state had the least prevalence. Co-infection existed between Pf and Pv was (7.1%) Pf and Po was (15.4%), Pv and Po was (6.0%). Multiple infection of the species Pf, Pv and Po was (6.0%). This calls for urgent intervention to maintain drug policy in treatment of each of the *Plasmodium* species not only falciparum.

Ellagic acid modulates the oxidative stress profile in various organs of *Trypanosoma congolense* infected rats

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Ellagic acid has been found to possess trypano suppressive effects and ameliorated some of the organ pathological complications but it unknown, whether the effects were mediated through an antioxidant related mechanism. This work therefore, investigated the effects of ellagic acid on lipid peroxidation and antioxidants profile of *Trypanosoma congolense* infected rats. Malonyldialdehyde levels were significantly decreased ($p < 0.05$) across all organs in the ellagic acid treated groups. There was a significant increase ($p < 0.05$) in glutathione levels in group treated with 200 mg/kg BW ellagic acid across all organs. However, treatment with ellagic acid did not significantly ($p > 0.05$) change superoxide dismutase level in the liver of rats but an increase was observed in the kidney, spleen and heart of the treated groups. The 100 mg/kg BW of ellagic acid increased catalase levels ($p < 0.05$) in all organs except the kidney. We therefore, concluded that ellagic acid boosted endogenous antioxidant reserves and reduced lipid peroxidation.