Lamivudine-Artesunate Co-administration Affects Some Haematological Indices in Wistar Rats

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The co-administration of lamivudine (3TC) and artesunate (AS) in HBV-malaria co-infection presents possible interactions that may adversely affect haematological parameters. 3TC and AS are also concurrently administered in HIV/malaria co-morbidity. This study investigated the effects of 3TC-AS co-administration on hematological indices in healthy and diseased Wistar rats. For healthy animals, group one served as control while groups two and three received 3TC (20 mgkg⁻¹). Group three received 10 mgkg⁻¹ AS in addition, while group four received only AS. In diseased animals, the grouping was maintained, but all animals were immunosuppressed with cyclophosphamide (100 mgkg⁻¹ stat; 50 mgkg⁻¹, day 8) and infected with Plasmodium berghei (1x10⁶ on day 12). An additional non-diseased control group was added. Treatment duration was 21 days with 3TC treatment all through, while AS treatment was from day 15, with intraperitoneal drug administration. Blood was collected at the end of the treatment and PCV, RBC, WBC, Bleeding time, clotting time and differential WBC were determined. In healthy animals there were no statistically significant differences in haematological indices compared with controls. In the diseased animals, PCV and RBC of most groups were statistically significantly decreased compared to the healthy controls (p<0.05), while the RBC of the AS and 3TC-AS groups were statistically lower than those of the disease control (p<0.05). Data from this study suggests that PCV and RBC need close monitoring during 3TC-AS co-administration with concurrent immunosuppression and parasitemia as this may significantly alter both treatment goals and prognosis.