Status of selected biochemical and coagulation profiles and platelet count in malaria and malaria-Schistosoma mansoni co-infection among patients attending at Dembiya selected Health Institutions, Northwest Ethiopia

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Abstract

Backgruond: Malaria and schistosomiasis are infectious diseases that cause coagulation disorders, biochemical abnormalities, and thrombocytopenia. Malaria and Schistosoma mansoni co-infection cause exacerbations of health consequences and co-morbidities.This study aimed to compare the effect of malaria and Schistosoma mansoni co-infection and malaria infection on selected biochemical and coagulation profiles, and platelet count.

Method: An institutional-based comparative cross-sectional study was conducted from March 30 to August 10, 2022. A total of 70 individuals were enrolled in the study using a convenient sampling technique. Wet mount and Kato Katz techniques were conducted to detect Schistosoma mansoni in a stool sample. Blood films were prepared for the detection of plasmodium. The data was coded and entered into EpiData version 3.1 before being analyzed with SPSS version 25. An independent t test was used during data analysis. A P-value of less than 0.05 was considered statistically significant.

Results: The mean [SD] of alanine aminotransferase, aspartate aminotransferase, creatinine, total bilirubin, and direct bilirubin in the co-infected was higher than in malaria infected participants. However, the mean of total protein and glucose in co-infected was lower than in the malaria infected participants. The mean of prothrombin time, international normalization ratio, and activated partial thromboplastin time in co-infected was significantly higher, while the platelet count was lower compared to malaria infected participants.

Conclusion: Biochemical and coagulation profiles, and platelet count status in co-infection were changed compared to malaria infected participants. Therefore, biochemical and coagulation profiles and platelet count tests should be used to monitor and manage co-infection related complications and to reduce co-infection associated morbidity and mortality.

Key words: Biochemical profile, Coagulation profile, Malaria, S. mansoni, Co-infection, Dembiya,Ethiopia.

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Oral presntation

I am interested to do research on malaria and its vectors.