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Differential Diagnosis of Malaria and Dengue Fever on the Basis of Clinical Findings and Laboratory Investigations

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Abstract : Dengue fever and malaria are important vector-borne diseases of public health significance affecting millions of people around the globe. Dengue fever is caused by Dengue virus while malaria is caused by plasmodium protozoan. Generally, the consequences of Malaria are less severe compared to dengue fever. This study was designed to differentiate dengue fever and malaria on the basis of clinical and laboratory findings and to compare the changes in both diseases having different causative agents transmitted by the common vector. A total of 200 patients of dengue viral infection (120 males, 80 females) were included in this prospective descriptive study. The blood samples of the individuals were first screened for malaria by blood smear examination and then the negative samples were tested by anti-dengue IgM strip. The strip positive cases were further screened by IgM capture ELISA and their complete blood count including hemoglobin estimation (Hb), total and differential leukocyte counts (TLC and DLC), erythrocyte sedimentation rate (ESR) and platelet counts were performed. On the basis of the severity of signs and symptoms, dengue virus infected patients were subdivided into dengue fever (DF) and dengue hemorrhagic fever (DHF) comprising 70 and 100 confirmed patients, respectively. On the other hand, 30 patients were found infected with Malaria while overall 120 patients showed thrombocytopenia. The patients of DHF were found to have more leucopenia, raised hemoglobin level and thrombocytopenia < 50,000/µl compared to the patients belonging to DF and malaria. On the basis of the outcomes of the study, it was concluded that patients affected by DF were at a lower risk of undergoing haematological disturbance than suffering from DHF. While, the patients infected by Malaria were found to have no significant change in their blood components.

Keywords : dengue fever, blood, serum, malaria, ELISA
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