A COMPARITIVE ANALYSIS OF CONCURRENT MALARIA AND DENGUE INFECTION WITH EITHER INFECTION ALONE

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Aim In tropics, malaria and dengue are endemic and co-infections are common and often misdiagnosed as monoinfection. Only few co-infection cases have been reported in children, with insufficient data to enhance the understanding of the effects of co-infection. This study compared the clinico-haematological profile of malaria and dengue mono-infection with co-infection.

Methodology This was a cross-sectional observational study of patients hospitalised with acute febrile syndrome (history of fever in the past 7 days) who were investigated for malaria, dengue and other causes of fever. Clinical features and haematological parameters of malaria, dengue were compared with co-infections.

Results The diagnosis of malaria was confirmed by thick and thin blood smear microscopy. The diagnosis of dengue was made either by a positive serology (IgM) or a positive NS1 antigen or a positive molecular test (RT-PCR), considering that every patient was tested by all the three methods. Severity was classified and managed according to the World Health Organisation (WHO) guidelines for dengue and malaria.

Results One hundred and thirty nine children positive for dengue, malaria or both, were analysed. Fifty-two (37.4%) were malaria, 74 (53.2%) were dengue and 13 (9.3%) were co-infection. Patients with co-infection had more chills and pruritis as compared to malaria and dengue (p<0.05). Bleeding manifestations like petechiae were comparable in both co-infection and dengue but not observed in malaria. Neurological manifestations like altered sensorium and seizures were not observed in dengue (p<0.05) but comparable in malaria and co-infections. Jaundice was observed only in malaria. Hepatomegaly was comparable in all groups whereas splenomegaly was noted more in co-infections. Anaemia was observed significantly more in malaria (p<0.05) while other parameters like WBC, platelets and renal functions were comparable.

Conclusions A high index of suspicion for co-infection should be suspected in endemic areas for malaria and dengue. Jaundice and anaemia (in dengue patients) and spontaneous bleeding (in malaria patients) should raise the suspicion of co-infection. Whenever co-infection is confirmed, we recommend careful monitoring for bleeding and hepatic complications, which may result in a higher chance of severity, despite of the fact that no increased fatality rate was seen in our group.