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Distinguishing chikungunya infection from dengue infection among children admitted at a tertertiary hospital from 2012-2013 using clinical and laboratory predictors: A retrospective cross-sectional study

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Background: Dengue fever and chikungunya fever are both mosquito-borne illneses which have emerged as major infectious diseases especially in the tropical and subtropical regions of the world. Due to similarities in the symptomatology of both chikungunya and dengue fever infections, it is necessary to differentiate the two illnesses clinically and/or by laboratory testing.

Objectives: To compare the clinical manifestations and laboratory features which would differentiate chikungunya and dengue infections during the acute viremic phase of the illness.

Design: This is a retrospective cross-sectional study of children 18 years and younger diagnosed with chikungunya fever by serum PCR and dengue fever by serum dengue IgM or NS1 seen between January 1st 2012 to January 31st 2013.

Setting: Makati Medical Center, Makati City, Philippines.

Main Outcome Measure: Selected data on clinical symptomatology, physical examination findings, and laboratory examinations were obtained from review of medical charts, laboratory records and physician's records.

Results: Eighteen patients with chikungunya fever and 54 with dengue fever were analyzed for clinical symptomatology, dengue patients were significantly more likely to have mucosal bleeding, fever, abdominal pain and a longer illness duration, while chikungunya patients were significantly more likely to exhibit malaise, arthralgia and arthritis. Among the laboratory tests, dengue patients were significantly more likely to have have thrombocytopenia (platelets below 100,000), while chikungunya patients were more likely to have an elevated CRP.

Conclusion: Chikungunya patients can be differentiated from dengue patients at presentation to the hospital despite substantial overlap in the clinical symptomatology, physical examination findings, and laboratory examinations.

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