ELISA assay. The peptides are of 15- to 18-amino acids (aa) in length, with 10 aa overlaps. Three peptides P1 (2-18 aa), P11 (79-95 aa) and P12 (86-101 aa) showed positive responses (cut-off = mean OD of 8 negative controls + 3 standard deviation) to sera from individuals infected with all four DENV serotypes. For P11 and P12, 100% of sera from each serotype were positive, whereas for P1, 100% sera from DENV1, 3 & 4 and 86% sera from DENV2 were positive. These peptides are located on N and C terminal regions (1-40 and 70-100 respectively) which are characterized to be highly hydrophilic, surface accessible and flexible regions. According to IEDB conservancy analysis, the overall conservancy % values across the four serotypes of the three positive peptides: P1, P11 and P12, are 44%, 64% and 58% respectively. Two peptides P6 (39-56 aa) and P10 (71-89 aa) were positive only against the sera of individuals who had been infected with DENV2 and DENV4 (100% positive). Remaining nine peptides P2 (8-25 aa), P3 (16-32 aa), P4 (23-40 aa), P5 (40-48 aa), P7 (47-63 aa), P8 (54-71 aa), P9 (62-79 aa), P13 (93-110 aa) and P14 (100-114 aa) did not show significant positive antibody responses. Out of those: P5, P7 and P8 are located in a hydrophobic region and therefore not likely to be potentially antigenic. These results further provide evidences for DENV C protein being immunogenic in natural infections.

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COCULTURE OF ENDOTHELIAL CELLS AND MONOCYTES AS A POTENTIAL MODEL TO STUDY DENGUE PATHOGENESIS AND SCREEN COMPOUNDS WITH THERAPEUTIC POTENTIAL

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Plasma leakage is one of the main signs of complication of dengue virus (DENV) infections and it is related to the disease severity. The lack of animal models representing satisfactorily the pathophysiology of dengue fever in humans has been limiting the advances in understanding the disease mechanisms as well as the development of drugs and vaccines for dengue management. Many studies have been shown that monocytes are one of the main cells responsible for immune response to DENV, producing mediators that interact with endothelia increasing vascular leakage in humans. Therefore, the aim of this work was to stablish a model for assessing the *in vitro* vascular permeability using endothelial cells co-cultured with monocytes infected by DENV. Monocytes (THP-1 cells) were infected with DENV-2 strain ACS 46, at MOI of 0.1 and 1, and put in contact with endothelial cells (HUVEC) monolayers through apical or basolateral side of transwell inserts. As controls, monocultures of HUVECs were infected likewise. UV inactivated virus and supernatant of mock infections were also tested. The endothelial barrier function was evaluated by measuring the Transendothelial electrical resistance (TEER). Data were compared by one-way ANOVA/Tukey's test with $p<0.05$. Results show that the coculture system, infected at MOI of 0.1 , presented significant lower TEER values in comparison to the infected monocultures of endothelial cells, as well as the cocultures infected with UV inactivated virus or supernatant of mock infections, after 24 h of basolateral contact. No differences were observed at the same conditions with apical contact. At MOI of 1, we found no difference between mono- or cocultures. These results indicate that the infected coculture more efficiently interfered with the endothelial barrier function *in vitro* at low MOI (0.1), being a potential mimicry model of plasma leakage triggered by dengue infections. The proposed system will allow us to screen of compounds with therapeutic potential and study the interference of different immunomediators on vascular permeability in order to better understand the pathogenic factors associated with severe outcomes.

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EFFICACY OF RUPATADINE IN THE TREATMENT OF ACUTE DENGUE INFECTION

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Our previous studies showed that platelet activating factor (PAF) was a potent mediator of vascular leak. Therefore, we proceeded to investigate the efficacy of rupatadine which is a PAF receptor blocker in patients with acute dengue infection. We conducted a phase II, open label, randomized placebo controlled trial to determine the safety of rupatadine in patients with acute dengue, the efficacy of rupatadine in preventing or reducing vascular leak and to determine its efficacy in reducing complications associated with acute dengue. The study was carried out in 3 arms: rupatadine 40mg daily, rupatadine 10mg daily and the placebo. The patients were examined and laboratory parameters were measured at least twice a day to detect any complications and fluid leakage. Daily ultrasound scans were done from the day of admission to determine the presence and the quantity of fluid leakage. 138 patients were recruited on day 4.8 of illness (SD±0.55) with 44 receiving 40mg daily rupatadine, 44 receiving 10mg daily rupatadine and 44 receiving placebo. Both rupatadine 10mg and 40mg were found to be safe and did not cause any increase in adverse effects when compared to the placebo. The proportion of individuals who developed either pleural effusions or ascites (22.7%), were similar in all 3 arms. None of the patients given rupatadine 40mg developed bleeding manifestations, while 2 (4.5%) in the 10mg and 5 (11.4%) in the placebo arms developed significant bleeding manifestations. None of the patients in the rupatadine 40mg arm developed organ dysfunction, while 1 (2.3%) patient in 10mg arm and 3 patients (6.8%), in the placebo arm developed liver dysfunction. Those given rupatadine 40mg daily had less reduction in the platelet counts and less elevation of liver transaminases when compared to the 10mg rupatadine and the placebo arm. Rupatadine appears to be safe in patients with acute dengue infection. Although rupatadine did not reduce the proportion of individuals who develop fluid leakage when given on day 4-5 of illness, it appears to reduce complications associated with dengue. However, it will be important to confirm these findings in larger studies.

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COMPARISON BETWEEN DENGUE AND CHIKUNGUNYA BY CBC AT THE HOSPITAL OF THE NO. 2 POLICE OF THE CITY OF GUAYAQUIL PERIOD 2015

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Introduction Dengue and chikungunya are similar in their classical forms of clinical presentation, especially present as febrile syndrome and in areas where both viruses can circulate simultaneously confused clinically and even coexist in the same patient, also transmitted by the same vector. It is important to reach a differential diagnosis in patients with febrile illness as dengue carries a worse prognosis. Objectives This study aims to define and compare the clinical and laboratory associated with each condition in a hospital population who came to the hospital for febrile syndrome Police features N.2 Methodology A retrospective cross-sectional study. 150 patients were compared to positive 150 Chikungunya IgM positive patients Dengue IgM. Laboratory variables were extracted through medical records of patients and laboratory records Health Center, then compared by measuring association adjusted odds ratio obtained by logistic regression. Software used STATA version 14.1 for Mac. results The parameters of