Prevalence of hepatitis C virus infection among asymptomatic Pakistani children

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Background: In the current era, viral hepatic infection HCV has become widespread and is the most important reason of liver disease, worldwide. This study was conducted to determine the prevalence of hepatitis C virus (HCV) infection in patients admitted in children ward and attending children outdoor, at Akhtar Saeed hospital, Lahore (a teaching trust hospital).

Methods & Materials: In this cross-sectional descriptive study, 1358 asymptomatic patients attending department of Pediatrics were selected randomly. This study was conducted from March 2014 to March 2015. Patients of either sex, were included. The ratio of male to female was 50:50. The age ranged from 6 months to two years. Screening for antibodies against HCV (anti-HCV) was performed through Kit method and positive cases were confirmed by ELISA. Informed verbal consent was taken. Data was analyzed by using SPSS 16.0 hospital, Lahore (a teaching trust hospital).

Results: Out of 1358 registered patients, 1 patient was found reactive and confirmed on ELISA. The overall sero-prevalence of HCV infection within the study period was 0.33%. Atrics were selected randomly. This study was conducted from March 2014 to March 2015. Patients of either sex, were included. The ratio of male to female was 50:50. The age ranged from 6 months to two years. Screening for antibodies against HCV (anti-HCV) was performed through Kit method and positive cases were confirmed by ELISA. Informed verbal consent was taken. Data was analyzed by using SPSS 16.0 hospital, Lahore (a teaching trust hospital).

Conclusion: Data showed only 4 out of 1358 asymptomatic patients had Anti HCV positive. Undiagnosed, asymptomatic patients may be a basis of infectivity in many ways like by intimate individual contact with other family members. Evading unnecessary blood transfusion and injections and execution of strict infection control measures are highly recommended to trim down the frequency of HCV infection hospital, Lahore (a teaching trust hospital).

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Delayed appearance of virus induced morphological changes in cultures derived from dengue and dengue haemorrhagic fever patients

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Background: The replication of dengue virus (DENV) is still not fully understood. Virus induced cytopathic effect (CPE) observed under light microscopy during DENV replication include rapid destruction of infected cells, which begins with rounding of cells and syncytia formation. However, these cellular changes are more pronounced in vitro infections with wild type DENV than the laboratory adapted DENV, suggesting an increased vigor and virulence of evolving wild type DENV. The objective of the present study was to evaluate the CPE in C6/36 cells infected with sera of dengue (DF) and dengue haemorrhagic fever (DHF) patients.

Methods & Materials: Fifty-three RT-PCR positive serum samples of fever day 3-5 collected from Gampaha and Negombo Hospitals were used for the study. C6/36 cells were infected with 100 µl of DF (n=37) and DHF (n=16) patients’ sera.

Results: Out of 53 sera, 24 were DENV-1; 17 were DENV-2; 1 was DENV-3 and 11 samples showed mixed infections. The percentages of infection in DF and DHF were calculated using a mathematical formula.

DF,
\[ y = -0.3367x^5 + 7.6333x^4 - 65.233x^3 + 256.47x^2 - 430.23x + 250.5 \]

DHF,
\[ y = -0.4062x^4 + 8.7431x^3 - 70.719x^2 + 263.17x - 300.54 \]

\( y = \% \text{ of infection in DF or DHF;} x = \text{day of CPE} [2 \leq x \leq 7 \text{ days}] \)

The actual time taken for the development of CPE in > 90% of the cells in DF sera infected cultures was 38.4 hours post-infection and in DHF sera infected cultures was 43.2 hours. The time taken for the development of CPE was affected by the source of the virus (DF or DHF) but not the DENV serotypes. When we infected the Vero cells using the same DF / DHF serum samples, the cultures took more than 15 days to develop CPE.

Conclusion: The difference in the time required to infect the cells by the DENV derived from DF and DHF patients might be related to different mechanisms of DENV replication or the virulence of the virus. The difference in the time required to infect the two cell lines may be useful in the study of host-pathogen interactions on virus entry, replication and exit.

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