Abstract

Background:

Hepatitis C virus (HCV) is a major global health problem and has an estimated worldwide prevalence of 170 million. Anti-HCV prevalence had been studied in high risk groups in Sri Lanka in 1999 before the initiation of screening of donor blood for HCV. The present study was undertaken to determine the current seroprevalence of hepatitis C virus in thalassaemic patients and patients who undergo long-term haemodialysis and to determine the genotype/s of HCV prevalent among multitransfused patients in Sri Lanka.

Methodology:

Study group consist of 228 thalassaemic patients and 183 patients who undergo long-term haemodialysis. They were randomly recruited between 01st January 2007 and 30th April 2007. A sample of blood was collected from all the patients and tested for hepatitis C virus antibody with a third generation ELISA. Repeatedly reactive samples were subjected to RT-PCR for the detection of HCV RNA. Positive isolates were further tested to identify genotypes by nested RT-PCR using primers specific for genotypes I to IV.

Results:

Prevalence of anti-HCV antibodies among thalassaemic patients and haemodialysis patients were 3.95% in 1.09% respectively. HCV infection was detected in 45.45 % of anti-HCV positive patients. There was a significant correlation between the anti-HCV antibody prevalence and the number of blood transfusions or with the number of dialysis cycles. A positive correlation was observed between past history of surgery and presence of anti-HCV antibodies. Anti-HCV positivity was not associated with past history of jaundice. HCV genotypes II and non I – IV were prevalent in these two multitransfused patient cohorts.

Screening for viral hepatitis markers was not satisfactory in either cohort. In thalassaemic cohort, 52.2 % were not screened for either HBV or HCV infection. In haemodialysis cohort this value was 27.3%.

Coverage of hepatitis B vaccine was 82.45% in the thalassaemic group and 64.5% in the dialysis cohort. Assessment of seroconversion to the hepatitis B vaccine was only assessed in 31.9% of thalassaemics and 45.4% of long-term haemodialysis patients.

Conclusions and Recommendations:

The prevalence of anti-HCV antibodies was significantly associated with the number of blood transfusions, number of haemodialysis cycles and past history of surgery. However, past history of jaundice not significantly associated with the presence of anti HCV.

Screening for viral hepatitis markers was not satisfactory in either cohort. It is strongly recommended that patients should be screened for hepatitis B and C viruses prior to dialysis/ transfusion and at specific intervals.

Hepatitis B vaccine should be given to multitransfused patients before starting transfusions. Seroconversion to the vaccine should be assessed by detecting anti-HBs. It should be re-assessed at regular intervals in long-term dialysis patients.

Screening donor blood for anti-HCV antibodies should be made a mandatory test.