

To Study the Risk Factors for Hepatitis C in Cirrhotic Patients

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The purpose of the study was to evaluate predisposing risk factors for the development of Hepatitis C in cirrhotic patients who tested positive for Hepatitis C. Twenty three cirrhotic patients who tested positive for hepatitis C were included in the study. All were questioned about possible risk factors resulting in infection with Hepatitis C. 4 patients (17.3%) gave a history of previous blood transfusion, 5(20.8%) had a previous history of jaundice, 5(20.8%) had a history of needle stick injury in the past. No patient gave a history of surgery and no history of contact with a jaundiced patient was available. 1 patient (4.35%) who also gave history previous blood transfusion, gave a history of contact with multiple partners. In 9 cases (39.1%) no cause could be established. This shows that in a significant number of cases the mode of transmission of Hepatitis C still remains a grey area.

Key words: Hepatitis C, cirrhosis, risk factors

Hepatitis C virus is a single stranded, lipid envelope RNA virus of approximately 10,000 nucleotides, which code for some 3000 aminoacids¹. Diagnosis of HCV infection relies on a preliminary ELISA screening test to detect circulating anti-HCV antibodies. If available, a second generation (or multiantigen ELISA containing 22 and c33c, in addition to c100-3) is preferable because it is more sensitive and specific owing to the inclusion of recombinant antigens from both non-structural and structural regions of the genome².

Results of random blood donor screening by ELISA for anti-HCV indicate that HCV carriage is rather evenly distributed world-wide. Average national sero-prevalence rates vary from as low as 0.2% in Ireland to 0.6% in the United States, upto 1.2% in Southern Europe and Japan^{3,4}.

At Armed Forces Institute of transfusion in Rawalpindi, 689 volunteer blood donors were tested, and 33 were found to be sero positive and percentage sero prevalence to be 4.78%. In another study done at Karachi only one out of 230 children (13 years of age) was found to be anti-HCV positive, therefore the sero-prevalence in this age group was 0.43%. Hepatitis C is much less infectious than Hepatitis B. The passage of large quantities of infective material are necessary for infection. Secretions from HCV-RNA carriers including semen, urine, blood, saliva, and breast milk are non infectious blood transfusion is a definite risk for development of Hepatitis C, e.g., thalassaemia because of repeated blood transfusions, have an anti-HCV prevalence between 10 and 50%¹⁰. Anti HCV infection is more common in anti-HIV positive patients or with markers of previous Hepatitis B infection¹². Sexual and intrafamilial transmission is debatable¹³. It is purpose of our study to find the risk factors/modes of transmission of HCV in cirrhotic patients presenting to us, and how they differ from national and international data.

Patients and Methods

Twenty three patients with chronic liver disease who were anti-HCV positive were asked history which could point towards mode of transmission of the Hepatitis C virus they were asked about:

- H/o previous blood transfusion
- Previous h/o jaundice
- Surgery
- Needle stick injury
- Contact with a patient suffering from Hepatitis C.
- All patients had LFTs and abdominal ultrasound done. All patients were subjected to anti-HCV (IgM, IgG) as a marker of infection of Hepatitis C virus by the ELISA test.

Results

Risk factors for Hepatitis C

Twenty three cirrhotic patients who tested positive for anti-HCV were included in this study.

Four patients (17.3% gave a history of previous blood transfusion. Five (20.8%) had a previous h/o jaundice, 5(20.8%) had a h/o needle stick injury none of the patients in our study gave a h/o surgery in the past and none gave history of contact.. One patient (4.35%) who gave history of blood transfusion also gave history of contact with multiple partners. In nine cases (39.1%) no cause could be established.

Discussion

In our study 9 cases (39.1%) did not seem to have any obvious risk factors for the development of Hepatitis C, this shows that in many cases the spread of this virus still remains an enigma and further work needs to be done before the route of infection can be established in these cases. In a study conducted at Lahore on 144 patients with ongoing HCV infection no cause could be established in 25.7% of the cases, whilst in another study no risk factor could be found in 40% of the cases.

17.3% of the cases had a h/o transfusion. Since blood transfusion is still one of the important means of spread of Hepatitis C infection, especially in our part of the world where blood is not always tested prior to transfusion, this percentage seems to be a little lesser than expected. In the study done at Lahore 24.3% had h/o blood transfusion in the past. In a study reported from Lahore¹⁵ in patients on haemodialysis in whom nearly 85% had received multiple

blood transfusion. Anti-HCV was found in 62% of the cases¹⁵. In the data collected by Malik et al. This percentage was 35%.

20-8% cases in our study had needle stick injury. This is low as compared to study done by Khan where needle stick injury was present in 50% of the cases, but compared to the study by Malik¹⁶ where it was found in 19% of the cases.

Surgery is now thought to be a definite risk factor for HCV and it is surprising that none of our patients had a history of surgery in the past. According to Hamid¹⁸ 8% of patients with previous bypass surgeries were infected with the virus.

Sexual contact is an unlikely mean for spread of HCV as is evidenced in our study where only one patients gave a positive history, and even he had a h/o previous blood transfusion, which is much more likely to be the possible source of infection

Table 1. Risk factors for Hepatitis C

Risk factors	No.	%age
H/o blood transfusion	4	17.3
Previous h/o jaundice	5	20.8
H/o surgery	0	0
Needle sticks injury	5	20.8
No risk factor	9	39.1
H/o sexual contact with multiple partners	1	4.35

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