

# Screening for Anti HCV

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**Purpose of this study is to evaluate the different indications for screening for Anti HCV. This study was carried out in outdoor and indoor department of North Medical Ward of Mayo Hospital, Lahore. This is a non-interventional observational study. Two hundred patients ELISA proved HCV infection were evaluated to find out what were the different circumstances or symptomatology when tests for HCV infection were advised. So that a screening strategy can be formed. As hepatitis C virus infection has varied presentation and clinical features, the general practitioners, physicians, dermatologists and psychiatrists should be conscious about it an advise for Anti HCV detection whenever it is suspected. Screening of the early cases is beneficial both for the patients and its relatives.**

**Keywords: HCV, anti HCV, screening**

There was once a time when medical students were taught that the patients of diabetes mellitus can present for the first time in Eye, OPD, surgical OPD or with obstetrical complications. Now the time is that the doctors should be aware of that HCV infected patients can also present in various departments for the first time.

Hepatitis C is a major health problem now-a-days. Even in America an estimated 3.9 million Americans are infected with HCV<sup>6,26</sup>. The figures can be much higher in our part of the world.

HCV is a single stranded RNA virus belonging to Flaviviridae family. HCV genome exhibits substantial heterogeneity, which is the result of mutation that occurs during viral replication. HCV infection can present in various ways i.e., acute hepatitis, chronic hepatitis, liver, cirrhosis, hepatocellular carcinoma<sup>9,10</sup>, asymptomatic patients or with dermatological, hematological or neuropsychiatric complications. The course of acute hepatitis is variable. Most patients do not seek medical advice because of non-specific flue like symptoms. The course of acute hepatitis C is variable. Most patients like 85% or more with acute infection develop persistent infection. Liver disease develops over a period of 20-30 years. Although progression can occur in 5-10 years among rapid progressors.

HCV poses a more difficult health problem than does hepatitis B virus. 85% of people with HBV infection resolve their infection and only 15% become chronically infected. This is just the opposite in case of HCV infection. The immune system has difficulty in resolving HCV infection due to many HCV genotype variants. The virus replicates at alarming high rates and many variants<sup>21</sup> create extraordinary challenge in the development of therapeutic agents for treatment and effective vaccination. Changes in viral genome result in variants that are not recognized by the pre-existing antibodies this means that there is no protection against reinfection with the same or different genotype of virus<sup>22</sup>. That is why there is no effective pre or post exposure prophylaxis. HCV viral load is not predictive of long-term disease. The viral load also does

not correlate with the disease severity. There appears no correlation with genotype and the source of infection<sup>14,15</sup>. No clinical features of the acute disease or risk factors for infection have been found to be predictive of chronicity<sup>10</sup>. Certain factors are considered important for disease severity like age above 40 years, male gender and ingestion of 50gm or more alcohol per day. The number of HCV infected patients are increasing but epidemiological, clinical and virological factors predicting the outcome are still not well defined<sup>10</sup>. So attention should be paid for early diagnosis and management of the infected cases. That highlights the significance for screening for Anti HCV.

## Materials and methods

It is retrospective study. Two hundred cases with ELISA proved HCV infected were selected among the patients admitted in North Medical Ward, Mayo Hospital, Lahore or the patients attending outpatient department of Mayo Hospital, Lahore during the period of June 2002 to December 2002. These patients were diagnosed for the first time. The follow up cases of known HCV infection were not included. The detailed history was taken regarding symptoms or signs prior to HCV detection. History of blood transfusion or other I/V fluids, I/V injections, I/V drug abuse, nasal spray, occupation, contact with known hepatitis C patient, marital status, extramarital relation, sex history, H/O alcohol consumption was noted. History was also taken regarding comorbid illnesses like diabetes mellitus, renal failure, HIV infection or hepatitis B infection.

## Results

Two hundred patients with positive anti HCV were selected. The age and sex distribution was as follows.

Table 1. Sex distribution (n=200)

Sex	n=	%age
Male	140	70
Female	60	30



Table 2. Age distribution (n=200)

Sex	n=	%age
Age in years		
15-20	10	05
21-30	50	25
31-40	70	35
41-50	40	20
51-60	20	10
61-70	10	05

Table 3. Indications for screening for HCV infection

Indications	n=	%age
Contacts of patients of known HCV infection	30	15
Unexplained oedema feet	04	02
Hemolytic anemia with disturbed LFT	03	1.50
Vague aches and body pains	03	1.5
Bone pains and muscle tenderness	02	01
Jaundice	20	10
Unexplained weight loss and anorexia	03	1.5
Psychiatric symptoms	02	01
Darkening of facial skin	03	1.5
Prior to blood donation	28	14
Prior to job visa	32	16
Hepatic encephalopathy	19	9.5
Increasing abdominal distension	12	06
Facial puffiness	05	2.5
Mass in left hypochondrium	10	05
Hematemesis or melena	20	10
Loss of vigour	04	02

About 80-90 patients were having no symptoms.

Table 4. Past history of patients with positive anti HCV (n=200)

History	n=	%age
H/O I.V. fluids	25	12.5
H/O I.V. injections	42	21
I.V. drug addiction	02	01
Shaving from barbers	26	13
H/O blood transfusion or blood concentrates	04	02
Sharing of household items of a patients known to have HCV infection	40	20
H/O tooth extraction or other dental procedures	11	5.5
Sex with a known patient of HCV infection	3	1.5
Extra marital relations with multiple partners	02	01
Anal intercourse	01	0.5
Organ transplantation	01	0.5
Patients on haemodialysis	01	0.5
Accidental needle prick	01	0.5
No identifiable factor	41	20.5

## Discussion

Reducing the risk of HCV in the general population will require extensive community outreach services and patient education programme. At the moment HCV screening is inadequate. The doctors are not very clear about the screening strategy.

An enzyme immunoassay is the initial serological test for HCV and a positive result should always be confirmed by a more specific test like RIBA<sup>7,8,11,12</sup>. Testing asymptomatic cases potentially benefit them in several ways including evaluation for chronic liver disease and possible treatment, advice about avoiding potential hepatotoxins and counseling on ways to reduce their risk of transmitting HCV to others. The confidentiality of patients test result should be protected because a positive result can cause considerable anxiety. Disclosure of result may result in disrupted personal relationship and loss of employment, insurance or educational opportunities.

Before making guidelines for screening for anti HCV we should be clear about the transmission of virus from patient to others. HCV is a blood borne virus so it is most efficiently transmitted through large or repeated exposure to blood<sup>3,16</sup> or transplants from infected donors<sup>3</sup>. Inadvertent contamination of supplies shared among patients undergoing haemodialysis or sharing of equipment by drug users or exposure to an infected household contact can transmit infection. Body piercing and tattooing have also become risk factors. Users of heroin and other drugs who do not inject but who snort drugs should know that intra-nasal transmission of HCV is possible. HCV is transmitted sexually<sup>20</sup> among people who have STDs, or sex with more than one partner or who practice anal intercourse or sex with a partner known to have HCV infection. People should avoid sharing razors, blades and brushes especially tooth brushes.

Routine testing of pregnant females for anti HCV is not recommended because number of pregnant women who would be positive is expected to be low. In addition no measures are available to prevent transmission of HCV. Moreover, no therapy for the treatment of HCV infected infant exists. Transmission of HCV infection through breast milk has not been documented.

Several psychiatric disorders<sup>17</sup> are commonly found among HCV infected patients. The most common associations are depressive disorders, psychosis, bipolar disorders, anxiety and post traumatic stress. The psychiatrists should screen the patient for anti HCV whenever appropriate.

Relatively few patients seek medical advice for acute hepatitis C because of its non specific symptoms, or those who do present with acute hepatitis C, seventy to eighty percent have detectable HCV at clinical presentation. Ninety percent of patients have anti HCV positive by twelve weeks after onset. Therefore anti HCV testing should be repeated if acute hepatitis is suspected and the initial result is negative.

Certain skin diseases<sup>24</sup> like leucocytoclastic vasculities by mixed cryoglobulinemia, pruritus, oral lichen planus, alopecia areata, urticaria may be due to chronic hepatitis C infection. This shows the importance of liver examination and anti HCV screening in the presence



of skin diseases not related to other pathogenic mechanism.

Considering the diverse presentation of infection it is hoped that a new awareness of HCV epidemic will soon<sup>25</sup> lead to more effective and tolerable diagnostic tests which should be made available to primary care physicians and specialists.

Summarising our discussion we recommend policy of routine screening for anti HCV in the following circumstances<sup>2</sup>.

1. Those who injected illegal drugs even if they only injected once or a few times many years ago.
2. Persons who received clotting factors concentrates.
3. Persons on hemodialysis<sup>5</sup>.
4. Persons with persistently abnormal ALT levels.
5. Persons with organ transplants<sup>27</sup>.
6. Health care workers, emergency medical<sup>4,23</sup> and public safety staff after needle stick injury or mucosal exposure to HCV positive blood.
7. Children of HCV positive mothers.
8. Close contacts of HCV positive patients.
9. Unexplained skin and psychiatric symptoms.

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