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Research Article

A CROSS SECTIONAL STUDY ON THE OCCURRENCE OF THE ANTI-HCV SEROPOSITIVITY

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Abstract:

Objective: This case work aimed to find out the recent rate of occurrence of anti-hepatitis C virus antibody in cross-section of people in Multan, and to provide its comparison with the conclusion of the past research works.

Methodology: The screening of a sum of 35191 persons from both genders appearing in the laboratories in various hospitals of Multan carried out for the anti-hepatitis C virus antibody in the duration of complete two years from January 2017 to December 2018. The detection of the positive tests carried out with the utilization of EVOLIS automated fourth-generation analyzer and its confirmation carried out with the utilization of COBAS e-411 random access solid phase chemo-luminescent enzyme Immune-assay. A retroactive scrutiny of 37391 persons tested in the same laboratories of the same hospitals in the duration of 2012 to 2016 suggested 5.90% anti-hepatitis C virus positivity, and we considered that retroactive work for comparison.

Results: We detected the anti-hepatitis C virus antibodies in 9.01% (n: 3170) persons. The youngest subject was a five days' male newborn and the most aged positive subject was eighty-two years old male. Most of the carriers (48%) were available with thirty to forty-nine years of age and 53.10% of the positive subjects in Multan were from female gender. The recorded prevalence of anti-hepatitis C virus antibody in the previous retroactive work study was 5.90%.

Conclusion: The frequency of anti-HCV antibody in our city of Multan have increased from 5.90% to 9.01%, there is need of investigating the reasons of the increase in reach of this virus and encouragement for awareness of the subjects.

KEY WORDS: Hepatitis C Virus, Antibody, Random, Screening, Detection, Newborn, Utilization, Prevalence.

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INTRODUCTION:

The identification of the HCV as the major cause of the Non-A, Non-B hepatitis carried out in 1988 responsible for 80.0% to 90.0% of post-transfusion cases of hepatitis. In current years, infection of HCV is serious issue of health in the whole world. In the whole world HCV infection have occurred in one hundred and thirty million people, most of the patients among them were available with chronic infection of the disease [1]. These people pose a high inclination higher for liver diseases in opposition to the infection of hepatitis B virus [2]. There are many research works on this subject but most of the research works are transverse in design and conducted on some selected amount of population such as blood donors or the patients suffering from liver diseases which are unable to represent the whole community or the complete region of their living. HCV infection is an endemic in the whole world and we found a large variation in its occurrence depending upon the geographical regions. Some of the countries with the high occurrence of this disease are available in Asia & Africa. Areas with very low occurrence of this disease are present in North America, North & West part of Europe and Australia. There are very low rates of this disease in the developed nations as Germany (0.60%), Canada (0.80%), France (1.10%) & and Australia (1.10%). Less but lightly greater rates of occurrence of disease are present in United States of America (1.80%), Japan (1.50 to 2.30%) & Italy (2.20%) [1].

China has the prevalence of HCV as 3.20% which contained the 1/5th of the world's population. In India, a large survey reported an incidence of .90%. In Indonesia, the rate of occurrence is 2.10% but that rate got extraction from only willing blood donors. The range of the prevalence of HCV in our country Pakistan is from 2.40% to 6.50%. There is 22.0% prevalence of the HCV infection in Egypt [3]. There are no current population based work to estimate the occurrence of the disease in our country Pakistan, one study conducted in Hafiz Abad [4] and some other works on the blood donors showing the prevalence ranged from 2.0% to 10.0% [5, 6]. About 0.20% & 0.40% children having less than 12 years of age and twelve to nineteen years of age correspondingly

stated to be with the infection of HCV in our country Pakistan [7].

METHODOLOGY:

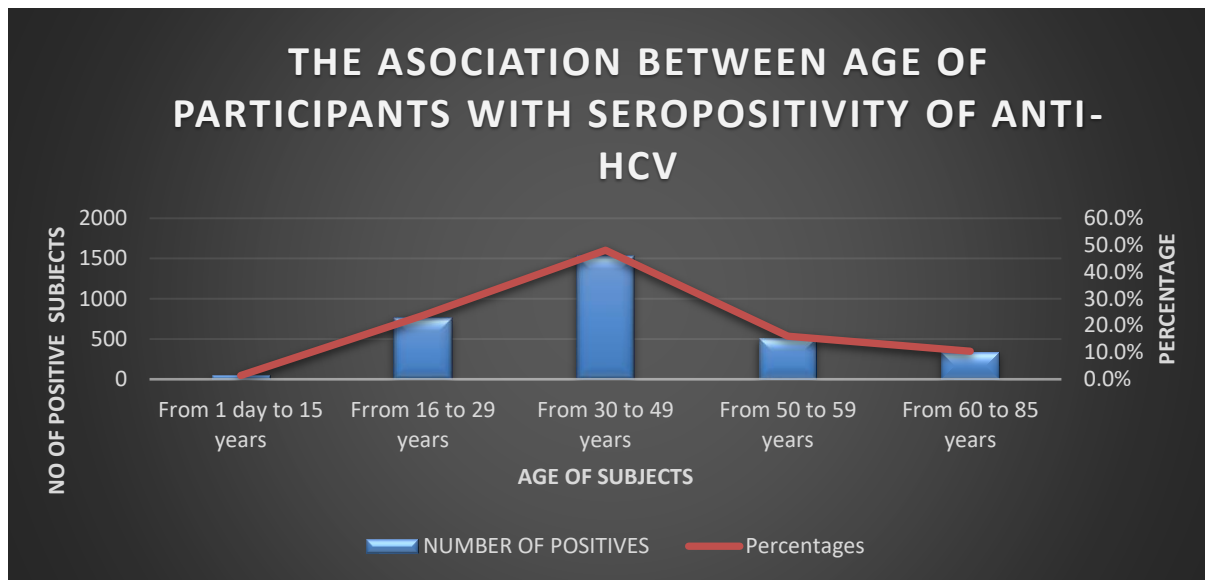
This was a transverse retroactive research work conducted on 35191 persons appearing in the laboratories of different hospitals of Multan for the screening of anti-hepatitis C virus antibody from January 2017 to December 2018. A retrospective estimation of Sero-positivity of anti-hepatitis C virus in 37391 persons recorded in the duration of 2012 to 2016 compared with current. The person who were undergoing testing in the laboratory were neonates & children, females, blood donors, workers of the health care departments, doctors, students, admitted patients of hospital, and those persons who were available with anomalous function of liver. Disposable syringes were in use for the collection of five milliliters blood specimens from adults & one to three milliliters from neonates and infants by the venipuncture, then we transferred the specimens into the sterile tubes. We allowed the samples to clot at room temperature and the centrifuged at one thousand rpm for complete fifteen minutes, and then suddenly removal of supernatant serum from packed cells & debris occurred. The detection of the positive tests carried out with the utilization of the EVOLIS autonomous 4th generation analyzer & its confirmation carried out with the help of COBAS e-411 random access solid-phase chemo-luminescent enzyme immune-assay.

RESULTS:

Three thousand one hundred and seventy out of 35191 patients from all age groups in the duration of complete two years were positive for anti-HCV describing a rate of occurrence of 9.010%. Youngest patients with positivity was only five days old male infant whereas eldest patient was eighty-two-year-old male. The range of the age of subjects underwent testing was newborn to eighty years of age. Most of the patients detected as seropositive in the age group of thirty to forty-nine year of age (48.10%) as presented in Table-1. The positive patients with respect to the gender discrimination showed that there were high proportion of females (1684) in comparison with the seropositive male patients (1486).

Age	Number Of Positives	Percentages
From 1 day to 15 years	44	1.40%
From 16 to 29 years	755	23.80%
From 30 to 49 years	1527	48.10%
From 50 to 59 years	510	16.10%
From 60 to 85 years	334	10.50%

Graph-1 describes the association of the age of the patients with the Sero-positivity of the anti-HCV antibody with their percentage.



DISCUSSION:

There is heavy burden of HCV infections and chronic liver diseases, still there is less attention on the rate of occurrence of this epidemic in our country Pakistan. There are many studies but they were on very small number of patients and all these studies were reporting a wide range of the rates. But in main review article in November 2009 observed a mean prevalence of anti-HCV in children as 2.10 with a range from 0.40 to 5.40%. Among adults, research works of the prevalence of hepatitis C infection in nonblood donors displayed high as an average of 5.40% and ranged from 2.10 to 31.90%) than in the blood donors as an average of 2.80% and ranges from 0.50 to 20.70. Overall prevalence of HCV among healthy youngsters, based on the blend data from blood-donors & non-donors was 3%, with research works in all provinces of the country describing the very high occurrence in Punjab in comparison with the other provinces [8].

The transfusion of the infected blood is also one of the reasons for the prevalence of the diseases because donors of male gender is high as compared to female donors, increasing the infection in the female sex due to transfused blood [9]. Other modes of transmission of the disease are shaves by barbers, utilization of used blades, circumcision which mostly affects male gender as compared to females [10]. There is no spread of the infection of HCV by feeding through breast, coughing, tearing, hugging, sneezing even the sharing of the same glass is also not important. Other known risk factors for the transmission of disease are sharing of needles during usage of drugs, sharing of toothbrush & razors. Mosquito, for example, is useless as a vector for the transmission of infections of both HBV & HCV because mosquitoes inoculate saliva not the blood in the duration of feeding [11].

Burton in the year of 1963 [12] concluded that bed bugs are responsible for the spread of forty-one different diseases, Goddard in 2003 [13] later asked whether this is real for the transmission of viruses.

The well-known mode of the spread of the HBV are exchange of the sexual fluid but if it can transmit HCV, it is not clear. There is not transmission of the HCV during sexual intercourse but it can occur with not protected sex with multiple partners [14]. Unnatural practices of sex also important reason of the occurrence of infection in males, as presented in on research work on the frequency of HBsAg in Multan [15], but is still a subject of speculation. But most of the countries of Asia stated the homosexual attitude [16] and even the constitution of the country restricts it and there is strict punishment of od at least two years under section 377 [17].

Wedemeyer [18] have stated that cross reactivity between hepatitis C virus & Influenza A and many other international moots showing non-authentic data have proposed anti-HCV antibodies are increasing in the patients with SLE, syphilis, & schistosomiasis, starting a new step for investigations.

CONCLUSION:

The findings of this research work recommend that there should be yearly statistical analysis in the laboratories of hospitals for prevalence of PCR-HCV to develop strategies for the prevention of the spread of the incidence of the infections due to such virus.

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