

Study to Know Hepatitis B and C Virus Infection Prevelance in Patients Who Are Euthyroid

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ABSTRACT

Objective: To know the hepatic infections prevalence, including hepatitis C virus (HCV) and hepatitis B virus (HBV) in the euthyroid population of Punjab province in southern Pakistan.

Study Design: An Observational Study

Place and Duration: Radiotherapy and medicine department of Nishter Hospital, Multan from January 2016 to january 2017.

Methods: 120 total patients who wee euthyroid including (36 males and 84 females) with 31.0 ± 0.09 years of mean age were enrolled. HCV and HBV including thyroid hormones, namely thyroxine (T4), triiodothyronine (T3) and thyroid stimulating hormone (TSH) in patients serum was detected using kits usewd commercially.

Results: Of the 120 patients, HBsAg (hepatitis B surface antigen) positive were 5(3.4%) and HCV positive were 19 (16%). Infection of HCV was 4-fold higher than HBV infection approximately .In males the HBsAg (8%) prevalence was higher significantly than that of females (1.3%, p = 0.006445) while the HCV prevalence in males was not different significantly from that of females (14.2%). In male patients HCV (16.7%) was higher significantly than HBV infection 8.33%. Similarly, the HCV incidence in female patients (14.2%) was higher significantly than that of HBV infection (1.2%) (p = 0.000011).

Conclusion: HCV prevalence is greater in the studied population than in HBV; In addition, this HCV prevalence is greater than the reported values in other studies. The higher infection of HCV in the study population is a source of concern and suggests that preventive measures should be taken.

Key Words: Prevalence, Hepatitis C, Hepatitis B.

INTRODUCTION

hepatitis B virus (HBV) cause serious liver infection. It is estimated that 20 billion people with HBV are infected and greater than 3.5 billion people with hepatitis B worldwide have (long term) chronic liver infections. Hepatitis C is also a serious disorder that affects the liver caused by HCV. Infection remains asymptomatic, but infection in chronic stage cause a liver scar and finally cirrhosis that develops after many years. It is estimated that three percent of the global population approximately lives with hepatitis C virus in chronic stage. Each year between 3 and 4 million human infections and intravenous treatments, as well as less sterilized medical devices, which lose their lives due to diseases associated with rates of hepatitis C infection> a sharp increase of> 350,000 in the twentieth century for a combination of injecting drug users (DUK). Uncontrolled reuse of blood transfusions, needles and syringes, the instruments used by barbers are contaminated and dentists, and tattooing is one of the largest problems of health. Disease, blood, sperm, saliva and vaginal secretion through body fluids such as overcome. In Pakistan, vast number of people lived below the poverty line, there hepatitis incidence is very common. The country's population



is the most common cause of death. Victims are often uncared by society. Some rough idea about hepatitis infection in a population is approximately 15 million. Officials and Health experts generally make statements in conflict about the incidence rate of hepatitis B in Pakistani population, with 1.7 to 5.5% range of incidence rate. This study was conducted to know the HBV incidence in euthyroid influenza in South Punjab and to estimate HCV, and a strategy was proposed for a future large population study because it is one of the reasons investigating the causes of cirrhosis of euthyroid disease .

MATERIALS AND METHODS

139 total patients referred to Nishter Hospital Multan, Radiotherapy and medicine department from January 2015 to January 2016 for thyroid function tests (serially in the records) were screened for HBV and HCV infection. In these patients, levels and histories of these hormones were shown in 7 (5%) patients with hypothyroidism and 12 (8.6%) with hyperthyroidism. To assess their health patients were evaluated. For this reason, 120 total euthyroid patients (male: 36 female: 84) were selected for the study. 30.7 ± 9 years was their mean age (excluding patients with thyroid disease and disorders) (18-52 years). All the patients were from Pakistan's capital, Saraiki Wasaib (south of Punjab).

Sample collection

From every patient 3ml of blood was taken. To detect HBV and HCV separated by coagulated blood centrifugation Serum was used. Thyroid hormone tests, namely thyroxine (T4), triiodothyronine (T3) and TSH, have been suggested. Patients were admitted to use the test samples and values of thyroid hormone in our study. In addition, no charges from patients were taken and HBV and HCV tests should be allowed in serum samples. To ensure the intervention of each patient consent form was used.

Test of blood samples

Every patients sample was analyzed using HCV, HBV (HBV), HBV (device test step, Korea, standard Diagnostics), and Hepatitis C virus was detected using (device test step, intact products, China), commercially available kits for HBV or qualitative detection. The test principle relies on fast immunoassay chromatographically. TSH, T4 and T3 were recorded by methods of radioimmunoassay (RIA).

Analysis of data

Every patients sample was analyzed for HBV / HCV levels and thyroid functions of every patient was checked. The obtained data for comparison was structured in groups, In 1st group included all patients selected for study, In group 2 only men and in 3rd group omly women. Chi square test was used to compare different groups. For data analysis SPSS (version 16.0) was used with significant acceptance p <0.05.

RESULTS

The age distribution of working euthyroids is shown in Table 1.



Table 1: Age-wise distribution of euthyroid persons

Age (years)	Male	Female	Total	
10-20	9	22	31	
21-30	10	27	37	
31-40	8	13	21	
41-50	6	13	19	
51-60	2	6	8	
61-70	1	3	4	
Total	36	84	120	

The HBV and HCV prevalence in combination with T4, T3, and TSH levels is given in 2nd Table. HBsAg was positive in 4 (3.3%) and anti-HCV was positive in 18 (15%) of 120 subjects. For this reason, a prevalence of 3.3% HBV and an 18% HCV prevalence were observed in the studied population. The data showed that HCV infection prevalence was approximately 4 times greater than HBV infection (p = 0.00028). In males HBsAg prevalence is (8%) was higher significantly than that of females (1.2%) whereas the HCV prevalence in males (16.7%) was not different significantly from that of females was 14.2%.

	N	HBV+	HCV+	Mean T ₃	Mean T ₄	Mean TSH		
Males	36	3 (8.3%)	6 (16.7%)	2.3±0.87	103.9±19.2	1.6±1.1		
Females	84	1 (1.2%)	12 (14.2%)	2.1±1.0	111.7±15.3	1.34±1.1		
Overall	120	4 (3.3%)	18 (15%)	2.1±0.9	109±33.2	1.2±0.98		
P-values (Chi square test)	HBsAg vs. HCV(All persons): ($p = 0.00028$) HBs males vs. females: ($p = 0.006345$) HCV males vs. females: ($p = 0.521303$) HBs males vs. HCV males: ($p = 0.0102$ HBs females vs. HCV females: ($p = 0.000011$)							

Table 2: T₃, T₄ and TSH levels (expressed as mean ± SD) in euthyroid subjects infected with HBV or HCV

Comparison of HCV and HBV positive men showed that HCV infection incidence (16.7%) was higher significantly than HBV (9.03%, p = 0.0102). Similarly, the comparison of women for HCV positive and HBV showed that HCV infection incidence is (14.2%) was higher significantly (p = 0.000011) than HBV (1.2%).

DISCUSSION

Chronic liver disease (CLD) has become an important public health problem not only in Pakistan but worldwide. For 75% of chronic liver diseases alcoholism is responsible and after that HBV and HCV, cirrhosis. The incidence increase of these viruses is supported by the repeated use of disposable syringes by some doctors and charlatans, especially in doctors, accounting for 69% of all cases in Pakistan. It is estimated that HCV incidence in Pakistan is about 6% and approximately 1.7 to 5.5% for hepatitis B antigen. Chronic hepatitis C and B may cause portal hypertension, CLD and other pathological disorders such as hepatocellular carcinoma and liver failure. Although viral hepatitis most commonly cause CLD in Pakistan, it may be because of relatively potentially and less common treatable diseases such as Wilson's disease and primary autoimmune cirrhosis. On the viral hepatitis prevalence repeated studies may be helpful in infection control of hepatitis B and C. The prevalence rate observed for HBV was 3.3% and for HCV was 18% respectively. The prevalence of HCV is much higher than the findings of HBV prevalence and international research. This is high Health authorities should note the infection in our region (as opposed to the reported figures) for control measures. It is also important to note that HBV is higher in men than in women. Men's exposure to this infection may be different from women. This needs more research. In



both sexes prevalence of HCV is almost the same. However the HCV prevalence is higher than that of HBV in both groups,. For this reason, additional studies may be recommended to determine the cause of the higher HCV prevalence in euthyroid patients.

CONCLUSION

The prevalence of HCV in the working population is higher than HBV; In addition, the HCV prevalence rate obtained is higher than the values in the literature. It requires concern about the highest HCV infection in the influenza and therefore preventive measures are recommended.

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