

PREVALENCE OF HEPATITIS B & HEPATITIS C

DR. RIAZ AHMED BHUTTA

Associate Prof. Pathology, Nishtar Medical
College, Multan

DR. NAUMAN AHMED

Post- graduate registrar, Nishtar Hospital, Multan

M. JAWAD POPALZAI

Final year MBBS student, Nishtar Medical
College, Multan

Dr. Mujtaba Ali

Post- graduate registrar, Nishtar Hospital, Multan

Dr. Sajid Mir

Post- graduate registrar, Nishtar Hospital, Multan

Dr. Adnan Ajmal

Post-graduate registrar, Nishtar Hospital, Multan

Dr. Asad Ahmed

House officer, Nishtar Hospital, Multan

Dr. Arslan Arshad

House officer, Nishtar Hospital, Multan

Muhammad Mohsin Ghafur

Final Year MBBS student, Nishtar Medical
College, Multan

ABSTRACT

Objective: To determine prevalence of hepatitis B and hepatitis C patients in routine indoor admissions at Nishtar Hospital, Multan from Southern Punjab. **Design:** Case Control Study. **Place and Duration of Study:** Medical units of Nishtar Hospital, Multan from February 2002 to July 2002. **Subjects & Methods:** During the course of this study, hepatitis B and hepatitis C positive cases were selected on the basis of laboratory diagnosis like antibodies against hepatitis B and C, and in some cases, ELIZA and even PCR was also performed. **Results:** Out of 132 cases, 79 (59.8%) males and 26 (19.7%) females were positive for hepatitis B while 20 (15.2%) males and 7 (5.3%) females were positive for hepatitis C. Higher incidence of hepatitis was seen in patients who were going to the barber for shaving or having a history of blood transfusion. **Conclusions:** The study shows that hepatitis is more prevalent in men (62.9%) who are going to barber for shaving. While blood transfusion (39.7%) is the second most important factor in spread of hepatitis. Ear piercing (15.9%) is another important cause among the female population in Pakistan.

INTRODUCTION

Viral hepatitis is one of the major health problems

in the world today including Pakistan. Hepatitis B and hepatitis C are notorious for their acute infectious nature and their chronicity respectively. Both are leading causes of cirrhosis and hepatocellular carcinoma¹. Previous data² of western world shows that prevalence increased significantly with age, tattooing, blood transfusion, I/V drug abuse, post-hospitalization, acupuncture, homo-sexuality and sexual partners. Women engaged in very high risk sexual behavior with multiple partners were seen to have two times higher incidence of HCV than other females³. Results clearly show increase in incidence of hepatitis B and hepatitis C in I/V drug abusers⁴. Similarly renal dialysis patients have increased prevalence of hepatitis B and hepatitis C than those going for peritoneal dialysis⁵. Major risk factors for transmission of hepatitis in prisoners are tattooing and ear-piercing⁶. Though it is evident in studies that hepatitis B has less chances to progress into chronic form of the disease as compared to hepatitis C, which is major cause of cirrhosis and hepatocellular carcinoma. According to one study in Pakistan, incidence of acute hepatitis B is 22.84%⁷. Hepatitis B is highly endemic in South East Asia and in Africa whereas its prevalence in industrialized countries is high among I/V drug abusers⁸. In Pakistan, 3 - 4% of healthy individuals are HBsAg positive, which is secreted into blood, saliva, semen and vaginal fluid. The chronic carriers are potentially infectious to other sero-negative people⁹.

MATERIALS & METHODS

All suspected patients of hepatitis admitted to the medical units of Nishtar Hospital, Multan were screened for hepatitis B and hepatitis C from February 2002 to September 2002. Only patients who turned out to be HBsAg positive or anti-HCV antibodies positive were selected for this study, and from these cases various modes of transmission of hepatitis were determined depending upon the history given by the patient. Every patient was

asked the following questions:

History of addiction i.e. I/V drug abuse and needle sharing, sexual contact, shaving habits and smoking. They were also inquired about history of dental surgery, GI endoscopy, renal dialysis, blood transfusion and alcohol intake. Females were specifically asked about ear piercing.

RESULTS

Results of the study indicate that out of 132 cases, 105 turned out to be hepatitis B positive while 27 were screened to be hepatitis C positive. Out of 105 hepatitis B positive cases (table-1), there were 79 males (75.2%) and 26 females (24.8%). Among males, 62 (59%) cases were those who were going to the barber for shaving. This was the most important factor detected in male population for having higher incidence of hepatitis B. Blood transfusion was the second most important cause of hepatitis B as 20 (19%) cases gave history of blood transfusion. Similarly dental surgery was the third important cause as 14 (13.3%) males gave history of dental surgery. Besides, overall, 40 (38.1%) males were smokers and few of them were alcoholics too.

Among the female patients, 26 (24.8%) cases were detected having hepatitis B, out of which 18(17.1 %) cases gave history of ear piercing which was the leading cause of hepatitis B in female population along with blood transfusion (8.6%). Besides this, dental surgery was again the third leading cause in female population as 6 (5.7%) cases were detected. Sexual contact was the fourth cause overall.

History	Male	Female	Total	% age
Addiction	3	0	3	2.9%
I/V Drug Abuse	2	0	2	1.9%

Sexual contact	10	7	17	16.2%
Shaving habits	62	0	62	59.0%
Ear piercing	1	18	19	18.1%
Dental surgery	14	6	20	19%
GI-endoscopy	4	0	4	3.8%
Renal dialysis	3	1	4	3.8%
Blood transfusion	20	9	29	27.6%
Alcohol intake	4	0	4	3.8%
Smoking	40	1	41	39%
Total	79	26	105	100.0%

Blood transfusion	9	5	14	51.9%
Alcohol intake	0	0	0	0%
Smoking	7	0	7	25.9%
Total	20	7	27	100.0%

The results of hepatitis C were also very interesting (table-II). Surprisingly in this study, it was seen that hepatitis C incidence is much lower than that of hepatitis B, which is contradictory to the previous research work done. Out of the total 132 cases studied, only 27 were hepatitis C positive. Out of these 27 cases, 20 (74.1%) were males and 7 (25.9%) were females. Again shaving habits (66.7%) and blood transfusion (33.3%) were the leading causes of infection in male patients. Similarly in females, blood transfusion and ear piercing are the leading causes of spread of hepatitis C.

Table-II. Results of Hepatitis C (n=27)

History	Male	Female	Total	% age
Addiction	0	0	0	0%
I/V Drug Abuse	1	0	1	3.7%
Sexual contact	1	1	2	7.4%
Shaving habits	18	0	18	66.7%
Ear piercing	1	4	5	18.5%
Dental surgery	3	1	4	14.8%
GI-endoscopy	2	0	2	7.4%
Renal dialysis	2	0	2	7.4%

DISCUSSION

The study clearly indicates that hepatitis B and hepatitis C are most prevalent in those people who go to barber for shaving. Thus shaving habits should be checked. People must be advised to ask the barber to change the shaving blade every time he shaves a new person. Also blood should be properly screened before transfusion is carried out. Health care personnel are the ones who are more severely affected. Many studies in Pakistan have reported the prevalence rate of HBsAg in health care workers ranging from 3.7% to 7.1%¹⁰. Since the discovery of hepatitis C virus¹¹, it has become evident that this infectious agent is a primary cause of post-transfusion and sporadic non-A non-B hepatitis. Population at risk for HBV and HCV infection includes health care workers like doctors, dentists, nurses and lab technicians; infant born to HBV or HCV infected mother; hemodialysis patients; and I/V drug abusers¹². Because there is currently no HCV vaccine or specific

immunoglobulins against HCV, prevention of exposure remains the only possibility for reducing HCV transmission and prevalence. Administration of vaccine for hepatitis A and hepatitis B is recommended for patients with chronic hepatitis C because of the potential for increased severity of acute hepatitis superimposed on existing liver disease¹³. According to this study, the risk of transmission of hepatitis B and hepatitis C through blood transfusion in Pakistan is 27.6% and 52% respectively.

Similarly dental surgeons must be advised to take proper care of sterilization of their instruments. All instruments must be sterilized before being used on the patient. Patient should be encouraged to have screening of hepatitis B and hepatitis C for both partners. If one turns out to be positive, proper preventive sexual measures for example condom must be used. Similarly patients who are undergoing dialysis should be properly screened every time they undergo hemodialysis to minimize the risk of transmission. Dialysis unit should also be periodically washed for any trace of virus. Same preventive care should be taken for GI-endoscopy units and patients must be screened before endoscopy is done.

Risk of acquiring hepatitis B and hepatitis C through ear piercing is 17.1% and 14.8% respectively in the female population. Females must be advised to have ear piercing done with properly sterilized instruments. Also, habits like tattooing and acupuncture should be discouraged.

REFERENCES

- Poovorawan Y, Chongsrisawat V, Tangkijvanich P. Problems and prevention of viral hepatitis in Thailand. *J- Med- Assoc-Thai*. 2001 Jun; 84 Suppl 1; S18-25
- Dominguez A, Bruguera M, Vidal J, et al. Communitybased sero-epidemiological survey of HCV infection in Catalonia, Spain. *J-Med-Virol*. 2001 Dec; 65(4); 688-93
- Feldman JG, Minkoff H, Landesman S, Dehovitz J. Hetero-sexual transmission of hepatitis C, hepatitis B and HIV-1 in a sample of inner city women. *Sex-Transm-Dis*. 2000 Jul; 27(6): 338-42
- Nalpas B, Zylberberg H, Dubois F, et al. Prevalence of infection by hepatitis viruses in a rural area. Analysis according to risk factors and alcohol consumption. *Gastroenterol-Clin-Biol*. 2000 May; 24(5): 536-40
- Ambuhl PM, Binswanger U, Renner EL. Epidemiology of chronic hepatitis B and C among dialysis patients in Switzerland. *Schweiz-Med-Wochenschr*. 2000 Mar 11; 130(10): 341-8
- Michault A, Faulques B, Sevadjan B, et al. Prevalence of hepatitis A, B, C virus markers in Reunion (south hospital and Saint Pierre prison). *Bull-Soc-Pathol-Exot*. 2000 Feb; 93(1): 34-40
- Malik LA, Luqman M, Ahmad A. Clinicopathological study of viral hepatitis. *Pakistan J Med Res* 1987; 26:4-11
- Deinhardt F, Gust ID. Viral hepatitis. *Bull WHO* 1982; 60: 661-91
- Galambos JT. Transmission of hepatitis B from providers to patient. *Hepatology* 1986; 6:320-5
- Hedler SC. Hepatitis B virus infection and health care workers. *Vaccine* 1990; 8

(suppl): s24-s8

11. Yano K, Yatsunami H, Yano M. HCV infection in medical environments. *Rinsho-Byori*. 2001 Aug; 49(8): 763-8
12. Humayun SS, Khan JA, Khaliq MA. Prevalence of hepatitis B carrier in hospital staff. *Pakistan J Med Res* 1991; 30:96-7
13. Siddiqui F, Mutchnick M, Kinzie J, et al. Prevalence of hepatitis A virus and hepatitis B virus immunity in patients with polymerase chain reaction-confirmed hepatitis C; implications for vaccination strategy. *Am-J-Gastroenterol*. 2001 Mar; 96(3): 858-63.