

## ORIGINAL ARTICLE

# Blncidence of Hepatitis B in patients screened before Felxible Nasolaryngoscopy in Mayo Hospital, Lahore

AZHAR HAMEED, BAKHT AZIZ, MOHIB ULLAH MUSHWANI

### ABSTRACT

**Purpose:** To assess the incidence of hepatitis B infection in patients before flexible fiberoptic nasolaryngoscopy for dysphonia.

**Materials and Method:** This prospective cross-sectional study was conducted at Mayo hospital Lahore from May 2013 to May 2014. All dysphonic patients who fulfilled inclusion criterion for flexible nasolaryngoscopy were screened for HepatitisB as part of infection surveillance& control. A proforma was designed for collection of data and consent was obtained from all patients before inclusion in study. Every patient was serologically screened by rapid chromatography immunoassay (ICT) for qualitative detection of hepatitis B antibodies in patients before fiberoptic nasolaryngoscopy.

**Setting:**ENT Unit-1 Mayo Hospital affiliated with King Edward Medical University, Lahore

**Results:** Three hundred patients (300) who had been planned for flexible nasolaryngoscopy were screened for Hepatitis B. Among three hundred patients 180 (60 %) were males and 120 (40 %) were females. 24 patients (08 %) diagnosed serologically positive for hepatitis B. Among hepatitis B positive patients nine (37.5%) were females and fifteen (62.5 % ) were males.

**Conclusion:** The incidence of hepatitis B is high in our society and most of them diagnosed on routine screening test before flexible nasolaryngoscopy. With this incidence continuously on the rise, urgent interventions needto be done for earlier diagnosis and prevention in order to reduce the mortality and loss of medical resources linked with this disease in larger public interest.

### INTRODUCTION

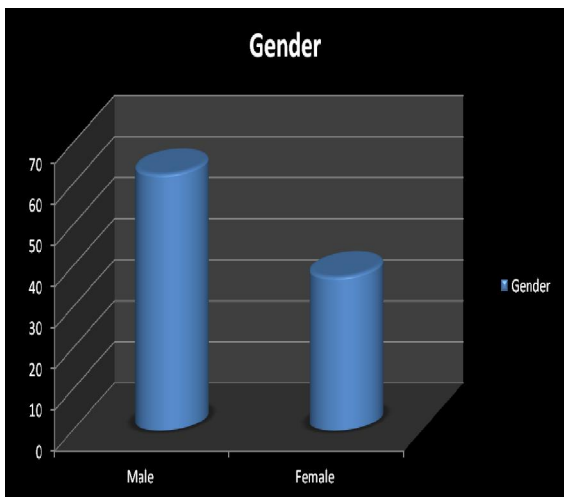
Viral hepatitis is a major health problem. Hepatitis B and Hepatitis C are a major health concern worldwide, causing 500 million people to be infected with either HB or HC and approximately 1.5 million people die from these diseases each year<sup>1</sup>. In Pakistan a large proportion of the population is already infected with hepatitis B and C with a prevalence of 10 % for hepatitis B and 4-7 % for hepatitis C<sup>2</sup>. In certain parts especially in the rural areas the percentage of infected individuals is significantly higher than the above mentioned figures<sup>3,4</sup>.The transmission of virus is through blood and secretions. Most common source of spread of these infections is through the use of unsterilized syringes and surgical instruments especially dental instruments or unchecked blood transfusion, other factors involved in the spread of hepatitis are contaminated instruments(e.g: haemodialysis sets, reuse of contaminated medical devices, tattooing devices, nose & ear piercing practice , acupuncture needles and razors) and occupational and nosocomial exposures<sup>5</sup>. Pakistan has high prevalence of risk factors for these diseases including unscreened blood transfusion, re-usage of contaminated syringes<sup>6,7</sup>,use of unsterilized instruments in dental procedures<sup>8</sup>and a large number of people having their face or

armpit shaved by street barbers<sup>9</sup>. Furthermore the high incidence of the disease also arises as there is unsatisfactory public awareness about prevention and risk factors of transmission of HB and HC<sup>10</sup> With this incidence continuously on the rise, urgent interventions need to be done for earlier diagnosis and prevention in order to reduce mortality, loss for the society and to lessen the burden on health resources.

### MATERIALS AND METHOD

This cross-sectional prospective study was conducted at Mayo Hospital affiliated with King Edward Medical University, Lahore from May 2012 to May 2013. All 300 dysphonic patients who fulfilled inclusion criterion for flexible nasolaryngoscopy were screened for Hep.B as part of infection surveillance& control .A proforma was designed for collection of data and consent was obtained from patients for the study. Every patient was serologically screened by rapid chromatography immunoassay (ICT) for qualitative detection of hepatitis B antibodies in patients before flexible nasolaryngoscopy. This test is done by a plastic kit containing a membrane strip which is pre-coated with mouse monoclonal anti-HBs capture antibody on the test band region. The mouse monoclonal anti –HBs- colloid gold

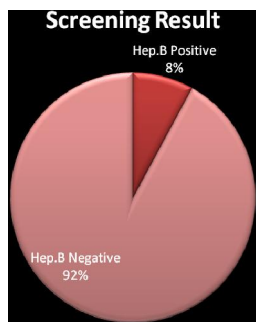
conjugate and serum sample move along the membrane chromatographically to the test region (T) and form a visible line as the antibody -antigen-antibody gold particle complex forms.



Gender related Incidence of Hepatitis B in patients screened before flexible fiberoptic nasolaryngoscopy

## RESULTS

Three hundred patients (300) who had been planned for flexible nasolaryngoscopy were screened for Hepatitis B. Screening done as per international protocol for surveillance and control of cross infection before flexible nasolaryngoscopy. Among three hundred patients 180 (60 %) were males and 120 (40 %) were females. 24 patients (08 %) were serologically positive for hepatitis B. Among hepatitis B positive patients nine (37.5%) were females and fifteen (62.5 %) were males.



## DISCUSSION

Hepatitis B virus (HBV) is a member of the Hepadna virus family. The virus particle, (virion)

consists of an outer lipid envelope and an icosahedral

nucleocapsid core composed of protein. The earliest record of an epidemic caused by hepatitis B virus was made by Lurman in 1885. In the mid 1970s, Harvey J. Alter, Chief of the infectious disease section in the Department of transfusion medicine at the National Institutes of Health, and his research team demonstrated how most post transfusion hepatitis cases were not due to hepatitis A or B viruses. In 1988, the virus was confirmed by Alter by verifying its presence in a panel of NANBH specimens. In April 1989, the discovery of the virus, renamed hepatitis C virus (HCV), was published in two articles in the journal *Sciences*<sup>10,11</sup>. The incidence of hepatitis B and C has achieved alarming situation in many countries of the world, especially in poor and developing countries. Viral hepatitis affects the general population disproportionately, with the highest burden on certain risk groups including those associated with having a

tattoo, undergone blood transfusion or nosocomial transfusion with different epidemiological characteristics<sup>12</sup> Prevention and control of HBV infection require continuous monitoring as well as evaluation of surveillance and prevention strategies. The proportion of people who screened positive for Hepatitis B were (8%) in our study. This result is higher than the incidence of Hepatitis B (2.4%) in adult population by Ali *et al*<sup>13</sup> and ascertains the effectiveness of screening in suspected population for early diagnosis of disease and measures for prevention. The high rates of infection could be linked to the presence of high poverty with low education level, unnecessary use of injections, re-use of syringes and lack of awareness about the transfusion of unsafe blood and blood products.<sup>14</sup> A higher incidence of Hepatitis B were found in the male population as compared to females. This is comparable to a local study done by Daudpotae *et al*<sup>15</sup>. In Pakistan the condition is more grave in rural areas where patients are more exposed to infection because of illiteracy and lack of awareness. Ali and his associates<sup>16</sup> reported 5.1% patients suffering from hepatitis C in their study and carrier state of HBs Ag was found to be 2.8%.

## CONCLUSION

The incidence of hepatitis B is high in our population and most of them diagnosed in routine screening tests before flexible nasolaryngoscopy.

Incidence of Hepatitis B in patients screened before Flexible Nasolaryngoscopy in Mayo Hospital, Lahore

Prevention and screening are suggested at larger scale for early diagnosis, prevention of complications and transmission of the disease. With the increasing incidence of Hepatitis B infection in Pakistan, the use of screening has become a vital tool in preventive measure for the disease. With this incidence continuously on the rise, urgent interventions need to be done for earlier diagnosis and prevention in order to reduce the mortality and morbidity in society and also reduce burden on health resources.

## REFERENCES

1. Kane M. Global program for control of hepatitis B infection, vaccine. 1995; 47-9.
2. Nangrejo KM, Qureshi MA, Sahto AA, Siddiqui SJ. Prevalence of Hepatitis B and C in the patients Undergoing Cataract Surgery at Eye Camps. *Pak J Ophthalmol.* 2011; 27: 1.
3. Malik IA, Kaleem SA, Tarique WUZ. Hepatitis B infection in prospective, where do we stand? *J Coll Phys Surg Pak.* 1999; 9: 234-7.
4. Yousaf A, Mohammad A, Ishaque M, Yousaf M. Can we afford to operate on patients without HBs Ag screening? *J Coll Phys Surg Pak.* 1996; 9: 98-100.
5. Department of Ophthalmology Liaquat University of Medical and Health Sciences Jamshoro from July 2007 to June 2008. Managing Occupational Risks for Hepatitis C Transmission in the Health care setting. *Clin Microbiol Rev.* 2003; 16: 546-68.
6. Zafer A, Aslam N, Nasir N, Meraj R, Mahraj V. Knowledge, attitude and practices of health care workers regarding needle stick injuries at a tertiary care hospital in Pakistan. *J Pak Med Assoc* 2008;58:57-60.
7. Shaikh MA, Shaikh WM, Solangi GA, Abro H. Frequency of transmission mode of hepatitis C virus in northern Sindh. *J Coll Physicians Surg Pak* 2003;13:691-3.
8. Janjua NZ, Nizamy MA. Knowledge and practice of barbers about hepatitis B and C transmission in Rawalpindi and Islamabad. *J Pak Med Assoc* 2004;54:116-9.
9. Khuwaja AK, Qureshi R, Fatimi Z. Knowledge of hepatitis B and C among patients attending family medicine clinic in Karachi. *East Mediterr Health J* 2002;8:787-93.
10. Krishani MK, Qidwai W, Ali BS, Khuwaja AK. Educational intervention among barbers about liver cancer inducing viruses: a pilot study from a developing country. *J Cancer Edu* 2010;25(4):632-6.
11. Zuckerman AJ. "Hepatitis Viruses". In Baron S, et al. *Baron's Medical Microbiology* (4th ed.). University of Texas Medical Branch. ISBN 1996; 0-9631172-1-1.
12. Lurman A. "Eine icterus epidemic". *Berl Klin Wochenschr.* 1885; 22: 20-3.
13. Choo QL, Kuo G, Weiner AJ, Overby LR, Bradley DW, Houghton M. "Isolation of a cDNA clone derived from a blood-borne non-A, non-B viral hepatitis genome". *Science.* 1989; 244: 359-62.
14. Kuo G, Choo QL, Alter HJ, Gitnick GL, Redeker AG, Purcell RH, Miyamura T, Dienstag JL, Alter MJ, Stevens CE, et al. "An assay for circulating antibodies to a major etiologic virus of human non-A, non-B hepatitis". *Science* 1989; 244: 362-4.
15. Rantala M. Surveillance and epidemiology of Hepatitis B and C in Europe – a review. *Euro Surveil* 2008;13(21). pii: 18880.
16. Ali S, Donahue R, Qureshi H, Vermund SH. Hepatitis B and hepatitis C in Pakistan: prevalence and risk factors. *Int J Infect Dis* 2009;13:9-19.
17. Bari A, Akhtar S, Rahbar MH, Luby SP. Risk factors for hepatitis C virus infection in male adults in Rawalpindi-Islamabad, Pakistan. *Trop Med Int Health* 2001;6:732-8.
18. Daudpota AQ, Soomro AW; Sero prevalence of Hepatitis B and C in surgical patients; *Pakistan Journal of Medical Sciences Pak J Med Sci* 2008;24:483-4.
19. Ali SA, Sheikh FA, Ahmed K. Prevalence of hepatitis B and C virus in surgical patients. *Pak J Surgery.* 2007; 23:109-12.