

PREVALENCE OF HEPATITIS B IN DENTAL OPD AT TERTIARY CARE CENTRE: A HOSPITAL BASED STUDY

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ABSTRACT

Aim: To know the prevalence of Hepatitis B among patients visiting Dental OPD at Indira Gandhi Institute of Medical Sciences, Patna. **Material and Method:** A retrospective study was conducted in Dental OPD at Indira Gandhi Institute of Medical Sciences, Patna. Data was collected from all the patients undergoing surgical treatment and from patients who had previously been tested for hepatitis B elsewhere. **Result:** Mean age was 39.64 + 16.106 years 30% of the subject group were female while 70% were male. Out of the 15 female subject, all were Hepatitis B negative while out of 35 male subjects, 3 were positive for Hepatitis B. In our study, prevalence of Hepatitis B was 6% which was statistically non significant.

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INTRODUCTION

Hepatitis B is a global health problem that affects over four hundred million people worldwide and causes over a million deaths every year. In India, hepatitis B virus (HBV) is an important cause of hepatocellular carcinoma (HCC).[1-3] Following an acute HBV infection, the rate of progression from acute to chronic hepatitis B is approximately 90% for a perinatally acquired infection,[4], 20–50% for infections acquired between the age of 1 and 5 years,[5,6] and <5% for an adult-acquired infection.[7] Chronic HBV infection consists of two phases: an early replicative phase with active liver disease and a late or low replicative phase with remission of liver disease.[8,9] In patients with a perinatally acquired HBV infection, there is an additional immunotolerance phase, in which virus replication is not accompanied by active liver disease.[10] In some patients, reactivation of HBV replication occurs after a varying period of quiescence.

The treatment options [11-13] include interferon and oral antivirals (nucleotide and nucleoside analogs). The carrier rate of Hepatitis B in India is different in the different regions of the country. The overall carrier rate is often quoted as being 4.7% [14]. HBV infection is the most important infectious occupational hazard in the dental profession. Vectors of infection with HBV in dental practice include blood, saliva, and nasopharyngeal secretions. [15] Intraorally, the greatest concentration of hepatitis B infection is the gingival sulcus.

[16] In addition, periodontal disease, severity of bleeding, and bad oral hygiene were associated with the risk of HBV.

Hepatitis B virus (HBV) is a major worldwide cause of acute and chronic liver infection. Nearly, two billion people in the world are acutely infected by HBV and another 350 million people chronically infected.[17] Of these, at least one million people die annually from HBV-related chronic liver disease, including cirrhosis, primary hepatocellular carcinoma, and liver cancer.[18] Worse, 75% of these cases hail from the Asian continent where an estimated 8% and 15% are suspected to be active carriers of this virulent virus.[17]

Nearly, 80% of the infections are subclinical which means that their disease remains undiagnosed. In this latent form, HBV is potentially 50–100 times more infectious than HIV.[19] Dentists, dental students, and their paramedical staff are at a heightened risk of exposure to HBV primarily because dentistry involves extensive and intensive use of small, sharp instruments that can easily get contaminated with infected blood, during an invasive procedure, which is the main mode of transmission of HBV. The past studies indicate that the risk of exposure for general dentists is about 3–4 times greater, and for nonimmunized surgical specialists, about 6 times greater than that of the general population. [20]

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Aim

To know the prevalence of Hepatitis B among patients visiting Dental OPD at Indira Gandhi Institute of Medical Sciences, Patna.

MATERIAL AND METHODS

A cross section study was carried out at the Department of Dentistry, Indira Gandhi Institute of Medical Sciences, Patna. The patients undergoing surgical extraction, fracture reduction, surgical excision of cysts or tumour or patients undergoing any surgical procedure requiring blood investigation were included in the study. The patients were explained about the anonymous nature of the study conducted. The patients who agreed to be a part of the study were advised blood investigation including screening for Hepatitis B antigen. Patient who gave positive history of Hepatitis B were also included in the study after their consent. Data was subjected to statistical analysis using Statistical package for social sciences (SPSS v 21.0, IBM).

Inclusion Criteria

1. Patients who gave positive history of Hepatitis B
2. Patients undergoing surgical procedures like extraction, fracture reduction, surgical excision of cysts and tumour.
3. Patients who were willing to participate in the study

Exclusion Criteria

Patients who did not give consent were excluded from the study

RESULTS

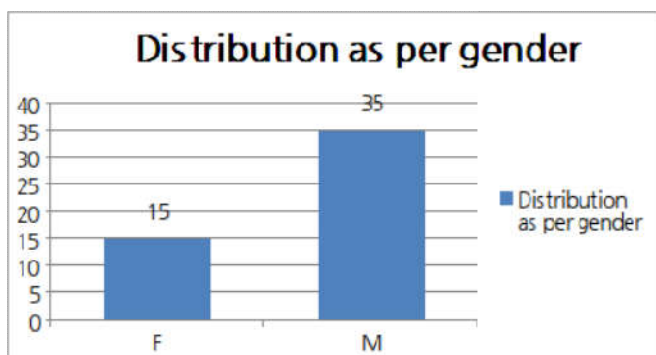
Table showing mean age of the subjects

	N	Minimum	Maximum	Mean	Std. Deviation
Age	50	12	77	39.64	16.106

Mean age was 39.64 ± 16.106 years

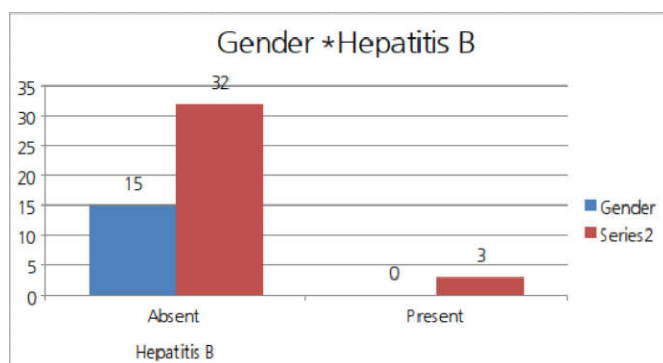
Distribution on Basis of Gender

	Frequency	Percent
F	15	30.0
M	35	70.0
Total	50	100.0



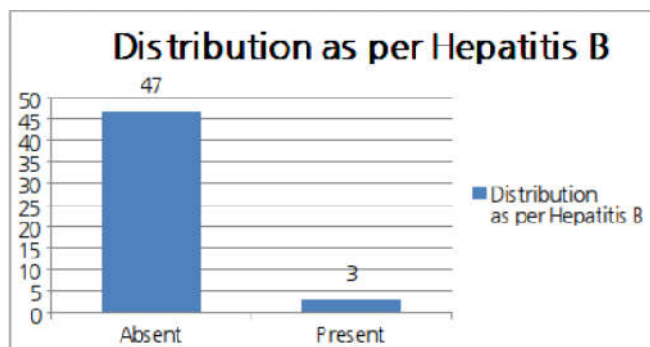
Distribution of Hepatitis B on basis of gender

Gender	Hepatitis B			Chi square value	p value of Chi square test
	Absent	Present	Total		
F	15	0	15	1.368	0.242#
M	32	3	35		
Total	47	3	50		



Prevalence of Hepatitis B

	Frequency	Percent
Absent	47	94.0
Present	3	6.0
Total	50	100.0



The prevalence of Hepatitis B was statistically non significant (p>0.05)

DISCUSSION

An epidemiological study was conducted at Department of Dentistry, Indira Gandhi Institute of Medical Sciences, Patna. The patients undergoing surgical extraction, fracture reduction, surgical excision of cysts or tumour or patients undergoing any surgical procedure requiring blood investigation were included in the study. The patients were explained about the anonymous nature of the study conducted. The patients who agreed to be a part of the study were advised blood investigation including screening for Hepatitis B antigen. Patient who gave positive history of Hepatitis B were also included in the study after their consent.

In our study, 50 patients were included in the study. 30% of the subject group were female while 70% were male. Out of the 15 female subject, all were Hepatitis B negative while out of 35 male subjects, 3 were positive for Hepatitis B.

The results of the study revealed that the prevalence of Hepatitis B in the dental OPD of a tertiary care centre was statistically not significant. Out of 50 subjects only 3 were Hepatitis B positive. Prevalence of Hepatitis B was 6% which was similar to a study conducted by Negero A, Sisay Z, Medhin G [21]. and Junejo SA, Khan NA, Lodhi AA [22] where the prevalence rate was 5.7% and 4.6% among visitors of Shashemene General Hospital voluntary counseling and testing center and patients admitted at tertiary eye care centre respectively. The low prevalence of Hepatitis B can be also similar to a study conducted by Trupti B. Naik, J.V. Sathish and Mita D. Wadekar. where only 0.56% of the subjects were Hepatitis B Positive.[23] Such low prevalence of Hepatitis B can be attributed to the increasing patient awareness and

education leading to more and more patients getting vaccinated against Hepatitis B.

CONCLUSION

A low prevalence rate of diseases like Hepatitis B is indicative of a developing and educated society. However, such disorder needs to be eradicated, in order to do so special considerations should be kept in mind. Such special consideration should include training of medical and paramedical staff, awareness of public on large scale, proper sterilization of instruments, double gloving, and proper disposal of used needles in order to save our future generation.

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