FREQUENCY OF HEPATITIS B AND C IN ORAL AND MAXILLOFACIAL SURGERY PATIENTS AT ARMED FORCES INSTITUTE OF DENTISTRY

Adnan Babar, Muhammad Waseem Ibrahim, Irfan Shah, Pareesa Rehman, Muhammad Usman Ali Awan, Muhammad Amin

Armed Forces Institute of Dentistry Rawalpindi

ABSTRACT

***Objective*:** To see the frequency of hepatitis B virus (HBV) and hepatitis C virus (HCV) carriers in oral and maxillofacial surgical patients.

Study Design: Descriptive study.

Place and Duration of Study: This study was carried out at Oral and Maxillofacial surgery department of Armed Forces Institute of Dentistry (AFID), Rawalpindi from June 2006 to July 2007.

Patients and Methods: Patients who were admitted at Oral and Maxillofacial Surgery Department during the study period for any kind of maxillofacial surgery were screened before operation for HBV, and HCV.

Results: A total of 842 patients were screened. Eighty percent were males and 20% were females with age ranging from 5-70 years. HBV was positive in 7% patients and HCV was positive in 9% of patients.

Conclusion: The high frequency of HBV and HCV in maxillofacial surgical patients suggests a routine screening for HBsAg and anti-HCV for all patients prior to surgery.

Keywords: Hepatitis B Virus, Hepatitis C Virus, Maxillofacial surgery.

INTRODUCTION

Viral hepatitis especially hepatitis B and C is a major health issue worldwide. Surgeons and public health officials both have an interest in the management of and challenges posed by patients infected with these viral infections [1].

Hepatitis B virus (HBV) has infected more than 2000 million people worldwide and 350 million people are chronically infected carriers of the virus [2]. WHO estimates that about 180 million people, some 3% of the world's population are infected with hepatitis C virus (HCV); 130 million of whom are chronic HCV carriers and are at risk of developing liver cirrhosis and/or liver cancer [3]. It is estimated that three to four million persons are newly infected each year, 70% of whom may develop chronic hepatitis.

Screening of maxillofacial surgical patients for hepatitis B and C undergoing maxillofacial surgery is not routine protocol in majority of hospitals in Pakistan, and is mainly confined for patients with past history of jaundice or liver disease, and special precautions against HBV and HCV are taken only when a known positive case operated. Unfortunately majority of trauma and non-trauma maxillofacial surgical patients do not present with jaundice and the carriers usually do not present with symptoms.

This study was carried out to see the frequency of HBV and HCV in oral and maxillofacial surgical patients before operating on them.

PATIENTS AND METHODS

This descriptive study was carried out at oral and maxillofacial surgery department AFID, Rawalpindi. AFID is a tertiary care dental hospital of Pakistan Army which not only deals with army patients but a significant number of civilian patients are also referred to this institute from all over the country. Oral and Maxillofacial surgery department of this institute deals in all kinds of traumatic and non-traumatic surgical patients.

The study was carried out over a period of 14 months starting from 1st June, 2006 to 31st July 2007. A total of 842 patients were operated under general anesthesia as indoor cases. Operations performed on these patients were for the management of a wide spectrum of oral and maxillofacial diseases/ problems including maxillofacial trauma, tumor surgery and reconstructive procedures, orthognathic surgeries, temporomandibular joint surgeries, cysts of jaws, and impactions etc.

Correspondence: Maj Adnan Babar, Armed Forces Institute of Dentistry, Rawalpindi
E-mail: dradnanbabar@gmail.com
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All patients were screened for HBsAg and anti- HCV to see the carrier status of the patients before surgery. All the HBV and HCV positive patients were further advised liver function tests and clotting profile before operation. A proforma was designed for the study and completed for each patient. Data had been analyzed using SPSS version 11. Frequency and percentage were used to describe the data.

RESULTS

A total number of 842 patients were screened for HBsAg and anti- HCV. Out of the total 842 patients, 674 (80%) were males and 168 (20%) were females. The age range was from 5 to 70 years.

Out of 842 patients 135 (16%) were found positive for HBsAg and HCV.

HBsAg was positive in 59 (7%) patients. Out of them 42 (71%) were males and 17 (29%) were females (Table-1). HCV was positive in 76 (9%) patients, 59 (78%) males and 17 (22%) females (Table-2).

Out of total cases sixty three (47%) patients had previous history of surgical procedures as indoor or outdoor case. Only 23 patients knew about their hepatitis status, while a majority of patients 112 (83%) were not aware of their hepatitis status before they reported to AFID and they were diagnosed on screening (figure)

All the newly diagnosed cases of hepatitis B and C were also referred to gastroenterologist and medical specialists for further evaluation and management.

DISCUSSION

Viral hepatitis is an important consideration in dental practice given the risks of patients-to-patients and patient-to-doctor transmission [4-6]. The transmission of HBV & HCV occurs predominantly through blood and blood products, followed by injury with contaminated sharp instruments, infected needle pricks, sexual contacts and through perinatal vertical transmission. Saliva may be an additional source of infection with HBV and HCV [7, 8].

Hepatitis B is one of the world's most widespread diseases. Similarly hepatitis C has been compared to a "viral time bomb". The carrier rate of HBsAg is quoted to be 10% [9, 10] and seroprevalence of anti HCV

Table-1: Frequency of Hepatitis B Virus n = 842

Hepatitis B Virus	No of Patients			Percentage
	Male	Female	Total	
Present	42	17	59	7%
Absent	632	151	783	93%

Table-2: Frequency of Hepatitis C Virus n = 842

Hepatitis C Virus	Male	Female	Total	Percentage
Present	59	17	76	9%
Absent	674	151	766	91%

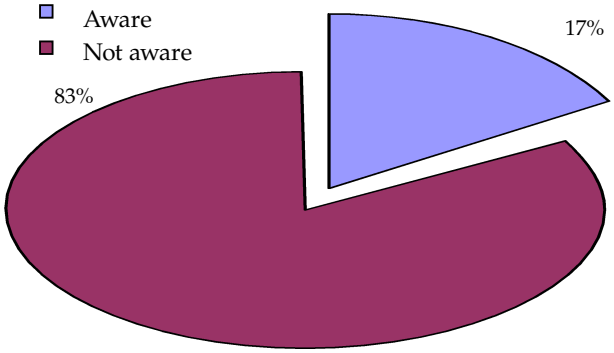

Fig.1: Description of patients' awareness about their

antibodies varies from 4% to 7% in different segments of Pakistani population [11].

Maxillofacial surgeons are at high risk of acquiring the hepatitis B and C infections, because they are exposed to the virus while handling the patients in operation theaters, from accidental cuts and pricks and spillage of blood drops in the eyes [12]. The prevalence of hepatitis in particular is found to be high in oral surgeons [13]. A study carried out by Mujeeb et al [14] showed the prevalence of HBsAg 7% in doctors, 17% among dentists and 20% in sweepers working in the hospitals. On the other end there is a very little understanding of hepatitis B and C infection and how to adopt safety measures against it among the health care professionals.

In the present study the frequency of HBV infection was found to be 7% compared to 6.5% reported in a tertiary care hospital of Karachi in the surgical patients [15]. A study carried out in the surgical out patients department of Fauji Foundation hospital Rawalpindi in 2006 demonstrated 2.28% prevalence of hepatitis B and 7.56% [7] seropositive cases of HCV, as compared to 7% and 9% of this study.

In this series 80% of patients were males. A reason for more male patients may be that majority of our patients comprised of trauma victims and men are exposed to trauma more than women in our part of world.

There has been a debate on whether asymptomatic people at high risk for hepatitis B and C should be screened or not. Doubtful benefit from early treatment, low treatment response rates, side-effects leading to treatment discontinuation, deterioration of patients quality of life, and high costs of treatment and screening are the main arguments against screening of asymptomatic people. However, the question of whether and how infected individuals should be identified need to be reconsidered under the light of recent improvements in the treatment of hepatitis B and C [16].

CONCLUSION

The high frequency of hepatitis B and C found in maxillofacial surgical patients suggests a routine screening of HBsAg and anti- HCV for all admitted and outdoor patients prior to elective surgery and trauma surgery to find out the seroprevalence of hepatitis B and C. This will enable enforcement of special precautions to avoid both, patient to patient & patient to doctor transmission.

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