



Original Article

Frequency of Hidden Hepatitis B and C During Screening in Patients' Undergone Surgical Procedures: Single Centered study

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ARTICLE INFO

Key Words:

Hepatitis B, Hepatitis C, Human immunodeficient Virus

How to Cite:

Hussain, A., Hussain, A., Afzal, M. F., Hussain, R., & Hameed, M. (2022). Frequency of hidden Hepatitis B and C during screening in patients' undergone surgical procedures: Single Centered study: Hepatitis B and C During in Patients' Undergone Surgical Procedures. *Pakistan Journal of Health Sciences*, 3(07).
<https://doi.org/10.54393/pjhs.v3i07.136>

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Received Date: 16th September, 2022

Acceptance Date: 20th November, 2022

Published Date: 31st December, 2022

ABSTRACT

Hepatitis is the serious health related concern and spreading rapidly specifically in developing countries, it also led to liver related diseases and hepatocellular carcinoma. While liver disease is an important health problem and having high health cost and leads to poor quality of life and dependency. **Objectives:** To determine the Incidence of hidden Hepatitis B and C during screening in patients' undergone surgical procedures reported in a single center. **Methods:** A cross-sectional study was conducted in Innovative Health Concepts & Research center by using a non-probability convenient sampling technique. The duration of study was 8 months from December 2021 to August 2022 and the study included those subjects who admitted in hospital for some surgical procedure and both genders aged between 25 to 60 years. Those subjects who have multiple neurological or musculoskeletal or endocrinological condition and came for the 2nd procedure were excluded from the study. Ethical permission was sought from Board of Advance Studies and Expert Review Board of Innovative Health Concepts Hospital (ASRRB/IHC&RC/RH/MED/Letter-003). The assessment for hepatitis B, HCV, and HIV was done through blood test. Data was entered and analyzed through SPSS version 26. **Results:** The results of study showed mean age of subjects was 43.47±10.17, mean weight was 71.35±10.78. The result showed 04% prevalence of hepatitis B, 4.9% prevalence of hepatitis C and no case reported of Human Immunodeficiency Virus (HIV). **Conclusion:** The study concluded that there is very low frequency of hepatitis B and C found in subjects undergone surgical procedures.

INTRODUCTION

Hepatitis is the serious health related concern specifically in developing countries like Asia and it led to the liver related disorders and carcinoma (HCC) too [1]. While liver disease is an important health problem and having high health cost and leads to poor quality of life and dependency [2]. In liver diseases, the primary liver cancer is the most important and 6th most common malignant neoplasm worldwide and 2nd most common type of the cancer that causes mortality [3]. The patients who have the liver cancer, among them 70 to 90% patients are diagnosed with (HCC) [4]. Almost every patient of the HCC has liver cirrhosis [5]. In acute stage of the liver cirrhosis it is difficult to diagnose the patients because in early stage the patient is asymptomatic [6]. In a study, it is concluded that

70% of the HCC cases often because of hepatitis B and C virus [7]. In Endemic areas like Asia and Africa the most common cause of the HCC is Hepatitis B virus while in United states and Europe the main cause is Hepatitis C virus [8, 9]. Prevalence of Hepatitis C virus is 7.44% while Hepatitis B virus is 1.98% and Punjab is the most affected area along with interior of Sindh [10]. The most common risk factors of Hepatitis B and C indicates that exposure to hijama therapy, circumcision performed by barbers, barber shaving, recreational drug use, tattooing, beauty parlor visits, IV injections are the risk factors for developing Hepatitis B and C [11]. Health care workers and medical students are at higher risk to develop hepatitis B due to exposure of the blood and body fluids also due to needle

stick prickling [12, 13]. World Health Organization (WHO) indicated that only 60% of the patients having Hepatitis Virus are diagnosed while others were not aware about their disease. [14]. Similarly, a study showed that 153000 were HIV positive from which 24700 were unaware of their disease [15]. The prevalence of HIV, HBV and HCV found to be five, three and wight individuals that shows low prevalence appear in preliminary screening [16]. To eliminate the occurrence of hepatitis the programs that aimed to screening, vaccination and different care strategies are introduced [17]. Testing prior to surgery is most important strategy to early diagnose and prevent the hepatitis and early diagnosis makes it possible to receive necessary care and treatment, testing also reduces the risk of transmission because of preventive strategies like use of sterilized equipment [18]. As per the literature, Hepatitis B and Hepatitis C are usually undiagnosed because there are no symptoms appear often in early stages of the disease, so the diagnosis is difficult. The study aims to determine incidence of hidden Hepatitis B and C during screening in patients' undergone surgical procedures reported in single center.

METHODS

The cross-sectional study design was used, and subjects were added in the study by using non-Probability convenient sampling technique. The study duration comprised of 8 months from December 2021 to August 2022 in Innovative Health Concepts Hospital and research center, Lahore. The sample size of 224 subjects were inducted in the study that was calculated through formula $n = z^2 \frac{p(1-p)}{d^2}$ by using confidence interval of 95% and margin of error 5%. The study included those subjects who admitted in hospital for some surgical procedure and both genders aged between 25 to 60 years. Those subjects who have multiple neurological or musculoskeletal or endocrinological condition and came for the 2nd procedure were excluded from the study. The demographic information was taken by self-structured questionnaire that include age, weight, gender of participants while routine screening before introduction of surgical procedure was done by taking blood sample of subjects for screening antibodies of HBsAG, HCV and HIV. The ethical approval was taken from the Board of Advance Studies and Expert Review Board of Innovative Health Concepts Hospital and Research Center (ASRRB/IHC&RC/RH/MED/Letter-003). The consent was taken from every subject before recruiting into the study. The permission was also carried out by the administration to before collection of data. The data entry and analysis were done through Statistical Package for Social Sciences (SPSS) version 26.0. The descriptive analysis used to determine

the information and demographic information is presented in frequency (percentages), mean ±Standard Deviation. The frequency of Hepatitis B and Hepatitis C is presented in Pie chart and bar chart.

RESULTS

The result of study showed that Mean±SD of age is 43.47 ± 10.17 years, weight of participants was 71.35 ± 10.78 kg. The subjects reported with acute stage was 139 (62.1%), sub-acute 14 (6.3%) and chronic was 71 (31.7) according to the severity of the diseases. In involvement of body regions, patients report with the lower extremity involvement 147 (65.6%), upper extremity involvement 62 (27.7%) and spine involvement was 15 (6.7%). The common causes of trauma in the included participants were congenital 34 (15.2%), fracture 154 (68.8%), infection 15 (6.7%), degenerative 14 (6.3%) and tumor 7(3.1%) as shown in Table 1.

Group		n (%) (n=224)
Age of Participants		43.47 ± 10.17
Gender	Male	169 (75.4%)
	Female	24.6 (24.6%)
Stage of severity	Acute	139 (62.1%)
	Sub-acute	14 (6.3%)
	Chronic	71 (31.7%)
Types of Trauma	Congenital	34 (15.2%)
	Fracture	154 (68.8%)
	Infection	15 (6.7%)
	Degenerative	14 (6.3%)
	Tumor	7 (3.1%)
Body region involvement	Upper extremity	62 (27.7%)
	Lower extremity	147 (65.6%)
	Spine	15 (6.7%)
Weight (Mean±SD)		71.35 ± 10.78

Table 1: Demographic information of subjects(n=224)

The frequency of hepatitis B found in the subject was only 9 (4%) out of 224 patients during their screening while remain subjects 215(96%) were tested negative (figure 1).

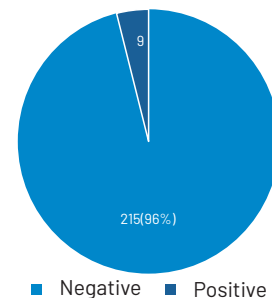


Figure 1: Frequency of hepatitis B in subjects(n=224)

Before their surgical procedures, patients who have positive hepatitis C was 11 (4.9%) and others shows negative in their screening 23(95.1%) as shown in figure 2. During blood screening, no patient report with Human Immunodeficient Virus(HIV).

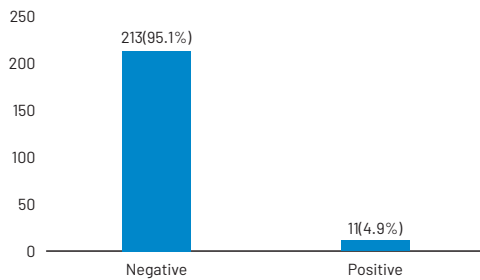


Figure 2: Frequency of hepatitis C in subjects (n=224)

DISCUSSION

The result of this study showed that that frequency of hepatitis B in single centred hospital was only 9(4%) in subjects (n=224) that presented in the hospital for various surgical procedures. The study conducted by Iqbal et al also conducted from October 2017 to July 2019 and concluded that only 7.5% patient have hepatitis B positive in screening [19]. Another cross-sectional study was conducted by Akhtar.et.al at from April 2015 to April 2016 at Fatima Memorial Hospital Lahore and concluded that 366(5.33%) were found positive for anti-HCV antibodies and 117(1.70 %) patients were HBV positive [20]. Naseem et.al., conducted a study showing the estimate screening of HIV, Hep. B , Hep. C in patients residing the zero line of border. He concluded that no patient found positive for HIV while 3% subjects report with HBsAG and 7% subjects have HCV [21]. Mehmood.et.al., conducted a review to identify the percentage of hepatitis virus in Pakistan. There was 1.98% patients have Hepatitis B virus and 7.44% having undiagnosed hepatitis C virus [10]. The result of current study showed that frequency of Hepatitis C was 11(4.9%) who admitted into the hospital for surgical procedures. Khurram et.al., conducted a study which revealed that out of 272 samples of blood taken from a variety of individuals. As compared to HBV, HCV has a higher prevalence, that is, 16.17% (44/271). On the other hand, the prevalence of HBV was only 2.2% (6/271)[22]. In previous literature, Khan et., al conducted study to ascertain the prevalence and potential risk factors associated with HBV and HCV infections in Punjab. This study concluded that the overall prevalence for HBV and HCV was 8.4% and 42.7%, respectively [11]. In current study, out of 224 subjects, no one has Human Immunodeficient Virus (HIV) positive. Ahmad et al in is study concluded that HIV prevalence among the general population is estimated to be less than 0.1%.(23).

CONCLUSIONS

The conclusion of current study is that low prevalence of Hepatitis B and Hepatitis C was found in patients who admitted to the hospital for the surgical intervention while no patient reports with HIV infection.

Conflicts of Interest

The authors declare no conflict of interest

Source of Funding

The author(s) received no financial support for the research, authorship and/or publication of this article

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