

Sexual Dimorphism of Hepatocellular Carcinoma in Pakistan

Zaineb Sohail and Muhammad Sohail Afzal*

Department of Life Sciences, School of Science, University of Management and Technology (UMT), Lahore, Pakistan

*Corresponding author: Muhammad Sohail Afzal, Department of Life Sciences, School of Science, University of Management and Technology (UMT), Lahore, Pakistan, Tel: 92-321-5244808; E-mail: sohail.ncvi@gmail.com

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HCC. About 70-90% of HBV infections leads to cirrhosis but cirrhosis is not necessary phase for HBV leading to HCC; rather it develops HCC even in the absence of cirrhosis [1].

Letter to Editor

Hepatocellular Carcinoma (HCC) is not an unfamiliar disease leading to multiple hepatic complications. It is the most common yet the most important type of liver cancers [1,2]. According to an estimate, approximately 5-10 million people suffer from HCC annually [3]. The long term chronic damage to the hepatocytes or the cirrhosis because of any reason leads to the HCC in which liver starts to loosen its activity of maintaining the enzymatic balance thus ultimately leading to death [4].

Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV) are the major viral causative agents leading to HCC while Aflatoxins, alcohol, non-alcoholic fatty liver disease are the prominent non-viral causes of HCC [5]. Alpha Feto Proteins is considered to be a tumor marker and raised levels show the occurrence of HCC [6]. Current curative treatments for HCC are surgery and liver transplantation, depending upon the stage, extent of the carcinoma and liver's extent to compensate the oxidative stress while Trans Arterial Chemoembolization (TACE) and Sorafeninb are taken as non-curative treatments [7,8].

The studies have shown that HCC is a dimorphic type of cancer in humans. Its occurrence is more dominant in males than females depicting the fact that HCC is somehow controlled by sex hormones i.e. androgens and estrogen. The transcription factors Foxa1/Foxa2 involved in controlling levels of androgen and estrogen and play critical role in making HCC a dimorphic cancer. However, the mechanism by which these hormones trigger or repress HCC onset is still unclear [9,10].

Pakistan is a developing country burdened with cancer. HCC prevalence in Pakistan is estimated between 3.7 to 16.0% in various studies [11,12]. The major cause behind HCC in Pakistan is found to be viral hepatitis related cirrhosis among the population. Several studies are being conducted in Pakistan showing high viral infectious burden ultimately or not leading to HCC [1]. In Pakistan, prevalence of HCV is 4.5-8.0% ranking Pakistan second highest with HCV burden [13-17].

As mentioned above, Pakistan is a developing country, thus the health conditions are not satisfactory in most of the region. There is a high chance of infections to be transmitted. The major risk factors for viral hepatitis transmission are the reuse of syringes in health centres and unsterilized instruments especially in orthodontics, untested blood transfusions, injection drug users (IDUs), infected razors used for shaving, tattooing, piercing with infected needles, occupational risks like sex workers, healthcare workers etc. and last but not the least through spouse [13-18]. Chronic HCV develops cirrhosis which leads to HCC while HBV has a different behaviour towards developing

It is verified and proved from different studies done on Pakistani population and clinical results taken from different hospitals in early 2000 that HCC is a male dominant type of cancer and is the most common cancer with 10.7% among all the cancers. If age factor is standardized then the occurrence rate of HCC in Pakistan is 7.6 per 0.1 million in Pakistan annually while 2.8 for females. This data is taken from HCV or HBV infected patients and there is no such record found for non-viral HCC to check the dimorphic existence of HCC [19-21]. It can be concluded from the available literature that the occurrence of HCC in male population is more as compared to female population.

The socio-economic condition of Pakistan and late diagnosis of HCC makes it difficult to be treated rather supportive medicines become the choice [1]. If it is diagnosed at a bit early stage then surgical removal is considered depending upon the liver condition and size of carcinoma [6-8]. The only way to avoid HCC is to get rid of its causes and the main cause is cirrhosis which is majorly caused by viral hepatic infections as discussed above. So, eradicating viral hepatitis is now becomes the need of the hour in order to say good bye to this deadly and painful cancer. Government must take radical steps to advocate the population about the disease, its mode of transmission and possible consequences. Proper hygiene must be observed. Early screening and proper treatment of viral infections can stop the disease progression towards HCC [1]. Male population must take more care of hygiene as their exposure is more to the infected plug. They must always use disposable razors at barber shops for shaving purposes, avoid physical contact with more than one partner, avoid alcohol usage and IDUs must be taken in care as they are major source for disease transmission. In this way, they could protect themselves from viral infections ultimately protecting themselves from HCC. Females also take care of the hygienic conditions and avoid all the risk factors in order to avoid viral infection like HCV or HBV leading to HCC.

Conflict of Interest

There is no conflict of interest

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