Original Article

Ascites And Hepatic Encephalopathy Conspicous Features of Hepatitis-C Epidemiology: A Case Series Study In Services Hospital, Lahore

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Objective: To study the epidemiological profile in patients infected with Hepatitis C Virus admitted in Medical wards of Services Hospital, Lahore (SHL).

Methods: It was a case series study in which total 115 HCV positive patients were interviewed after taking informed consent with a pretested questionnaire.

Results: Among 115 patients, 53(46.1%) were females and 62(53.9%) were males. Mean age was 54 years with standard deviation of 13.1. Age was stratified into three age groups. Patients belonging to age group 40 years and below were 12.2% ,whereas maximum number of patients fall into age group 41-60 years i.e. 64.3% and only 23.5% belonged to age group 61 years and above. Majority of the patients belonged to rural areas i.e. 34.8%, whereas 33.9% came from peri-urban areas and 31.3% were from urban areas. Considering the educational status, most of the lot were illiterate i.e. 60.9%, whereas 16.5% had primary education, 20% had secondary education and only 2.6% were educated above secondary school. As far as family history of HCV is concerned, 64.3% had no family history of hepatitis C whereas rest had HCV positive parents, siblings, spouse or children. Talking about the presentation of the patients, 56(48.7%) patients presented with fatigue and fever, 33(28.7%) patients presented with hematemesis, 15(13%) patients had melena whereas 11(9.6%) patients had pain epigastrium, 32.2 % were in hepatic encephalopathy and 31.3 % of patients had ascites. Regarding the potential risk factors, 36.5% had no history of surgeries, 27% had major surgeries, 23.5% underwent dental procedures whereas 13% had minor surgical procedures. Among males, 77% were habitual of getting shaved from local barber shop. 13% of females underwent ear/nose piercing whereas 16% of males had tattooing.

Conclusions: It was concluded from our study that HCV is common in age group 41-60 years with great burden on males, majority of whom were illiterate, residing in rural areas with history of surgical procedures and getting shaved from local barber shop. Ascites and hepatic encephalopathy were the two conspicuous presentations in these patients. Cosmetic procedures and HCV positive family history had also minor contributions. It is the need of time to educate people and organize campaigns spreading awareness among high risk population and general public.

Keywords: Hepatitis C, epidemiological profile, ascites and hepatic encephalopathy.

Introduction

Hepatitis C virus, first identified in 1989, is an RNA virus.[1] It is primarily transmitted through direct mucous/percutaneous exposures to blood e.g. transfusion, transplantation, injection drug use (IDU) or accidental percutaneous occupational exposures common in healthcare workers.[2]

WHO estimated 180 million people infected with Hepatitis C Virus (HCV) in 2009. In Pakistan, 10 million people are infected with Hepatitis C virus.[3] It is asymptomatic initially, later progressing to chronic liver disease, cirrhosis and hepatocellular carcinoma. HCV is the major cause of chronic liver disease worldwide resulting into high rates of morbidity and mortality. Many patients develop complications such as ascites and encephalopathy. The most common routes of transmission in developed countries include Injection drug use (IDU), hemodialysis, needle stick injury, sexual intercourse, tattooing. In developing countries, lack of awareness, inadequate blood screening facilities, non-compliance to treatment, improper disinfection of equipments in hospitals and dental setting are the major risk factors.[4] A study indicates that there is extremely high prevalence of HCV in rural and peri-urban areas of Pakistan.[5] It is worrisome to note that 66% population of Pakistan is living in rural areas where they are at high risk of contact with the disease

and misperceptions.[6] Such alarming situation has profound implications on patients, families, health care professionals and whole society.

Hepatitis C virus is highly endemic in Pakistan and an important pathogen causing liver disease. The high risk of chronicity of this blood-borne infection and its association with hepatocellular carcinoma emphasize its public health importance. Due to its increasing prevalence health authorities have to include hepatitis C on their radar as a disease which can result in further more morbidity and mortality in the years to come. Unsafe blood transfusion and therapeutic interventions by infected needles, surgeries, dental procedures, reuse of razors for shaving are all preventable modalities of spread of hepatitis C infection. This study will help to design a health education program, as the reduction in the disease scourge is not possible without increasing public awareness of the implication of this chronic infection and its mode of spread.

Methods

This was a case series study conducted at medical wards of Services Hospital, Lahore (SHL). HCV positive admitted patients were selected through convenient sampling technique. Total of 115 patients were interviewed through a pre-tested questionnaire during three weeks time period. Close ended questions were asked. Informed consent was taken prior to interview. Patients with co-morbidities were excluded from the study. Data Compilation And Analysis: The data stored electronically was later analyzed by using SPSS version 21. Descriptive statistics i.e. mean, standard deviation, minimum, maximum were applied for quantitative variable i.e. age. Frequency distribution and percentages were applied for qualitative variables.

Results

Total 115 HCV positive patients were interviewed. Among these 46.1% were females and 53.9% were males. Mean of age was 54 years with standard deviation 13.1 years. Maximum age was 90 and minimum was 20 years. Patients belonging to age group 40 years and below included 12.2%, maximum number of patients fall into age group 41-60 years i.e. 64.3% whereas 61 years and above included 23.5% patients. Most of the lot came from rural areas i.e. 34.8%, whereas 33.9% belonged to peri-urban areas and 31.3% were from urban areas. Majority of the patients were illiterate i.e. 60.9%, whereas 16.5% had primary education, 20% were educated till secondary level and only 2.6% patients had education above secondary. Regarding family history, 64.3% had no family history of hepatitis C, 11.3% had HCV positive parents and 15.7% had HCV positive siblings whereas only 4.3% had HCV positive spouse and also 4.3% HCV positive children. **(Table1)**

Table-1: Demographic Details of HCV positive patients.

	Characteristics	Frequency	(%)
Sex	Male	62	53.9
	Female	53	46.1
Address	Urban	36	31.3
	Peri-urban	39	33.9
	Rural	40	34.8
Education	Iliterate	70	60.9
	Primary	19	16.5
	Secondary	23	20
	Above secondary	03	2.6
Family history	Parents	13	11.3
	Siblings	18	15.7
	Spouse	05	4.3
	Children	05	4.3
	None	74	64.3
Age groups	40 years & below	14	12.2
	41-60 years	74	64.3
	61years & above	27	23.5

Table-2: Frequency distribution of symptoms/presentations.

Presenting Symptoms	Frequency	Percentage (%)
Fatigue and fever	56	48.7
Hematemesis	33	28.7
Malena	15	13
Pain epigastrium	11	9.6
Ascites	36	31.3
Encephalopathy	37	32.2

Table-3: Frequency Distribution of Potential Risk factors for HCV positive patients.

	Characteristics	Frequency	(%)
H/o surgical procedures	Major	31	27
	Minor	15	13
	Dental	27	23.5
	None	42	36.5
Re-use of razonrs in males	Yes	48	77
	No	14	23
Blood transfusion	Yes	29	25
	No	86	75
Cosmetic Porcediures	Tattooing	10	8.7
	Ear/Nose piercing	07	06
	None	98	85.2

As far as the presenting symptoms are concerned, 56(48.7%) patients presented with fatigue and fever, 33(28.7%) patients presented with hematemesis, 15(13%) patients had melena whereas 11(9.6%) patients had pain epigastrium, 37(32.2%) were in hepatic encephalopathy and 36(31.3 %) of patients had ascites. **(Table-2)** Regarding the potential risk factors, 75% of patients had no history of prior blood transfusion, 25 % were transfused before suffering from HCV. As far as prior surgeries are concerned, 36.5 % had no history of surgeries, 27 % underwent major surgeries under general anesthesia and 23.5% of HCV positive patients had history of dental procedures whereas 13 % had minor surgical procedures performed under local anesthesia. Among males 77 % were habitual of getting shaved from local barber shop and reuse of razors. Regarding the cosmetic procedures 85.2 % never had cosmetic procedure in their life. Among females, 13% had ear/nose piercing whereas 16% of males had tattooing **(Table-3).**

Discussion

HCV is becoming endemic in many regions of the world. It results into high rates of morbidity and mortality. Prevalence and risk factors involved in transmission of HCV varies in different regions of the world. Our study showed peak of prevalence in age group 41-60 years. This is in accordance to another study conducted in Brazil that showed most of the patients were from age group 41-60 years.[7] In this study, most of the patients were illiterate and belonged to rural areas where malpractices such as re-use of razors is very common. In the current study, 35.7% patients had HCV positive family history. This also increases the rate of HCV positive patients in the society. It is found in consistence to a study in which Portic et al showed that the frequency of HCV in household contacts of HCV families was 2.5 times more than that of the general population.[8] In our study, 63.5% patients presented at a late stage with ascites and hepatic encephalopathy, the reason may be, as patients are non-compliant to drug treatment and prefer traditional medicine instead. In developed countries such as America, IDU is the main risk factor and is responsible for 70-80% of HCV patients in last three decades targeting around 2 million people.[9] This is in contrast to our study in which frequent visits to local barber shop and surgical and dental equipment was a major risk factor for HCV transmission. Re-use of razors at barber shops and improper sterilization techniques of medical devices can be the root cause. This brings attention to the point that large number of population lacks awareness regarding use of disposable razors; also, health care workers don't have enough education regarding sterilization techniques of equipment. Along with this, 25% of patients had history of blood transfusion prior to suffering from HCV. This shows still there is deficiency in screening procedures of blood at blood banks. Our results are in accordance with another study in which Khan et al[10] studied risk factors for HBV and HCV where he found blood transfusions, surgeries, dental extraction as the major risk factor for both diseases. The results of the current study are also supported by another study in which major and minor surgeries were leading risk factors for HCV transmission.[11] In this study, we found that only 13% of females had ear/nose piercing and 16% of males had tattooing. However, in countries where ample studies have been carried out, to date, there is no such evidence that HCV infection occurs through tattooing; however tattoo exposure can be a risk factor for HCV transmission specially in young generation.[12]

Conclusion

It was concluded from our study that HCV is common in age group 41-60 years with great burden on males, majority of whom were illiterate, residing in rural areas with history of surgical procedures and getting shaved from local barber shop. Ascites and hepatic encephalopathy were the two conspicuous

HCV positive family history had also minor contributions. These complications may be prevented by diagnosing the disease in pre-symptomatic stage and prompt treatment. It is the need of time to educate people and organize campaigns spreading awareness among high risk population and general public.

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