ORIGINAL ARTICLE

Dermatological Manifestations in Patients with Hepatitis C Virus

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ABSTRACT

Aim: To identify and detect the diabetes mellitus connected to chronic hepatitis C infection and its impact on liver.
Study Design: Observational cross-sectional
Place and duration of study: Outpatients Department (OPD) and Indoor Department of Medicine, Amna Inayat Medical College Sheikhupura from 1st March 2017 to 31st August 2017.
Methods: A total of 125 patients were selected for this study. The exclusion criteria includes all the patients with comorbidities along with hepatisis C virus (HCV), liver diseases especially due to hepatitis B, renal diseases, diabetes mellitus and malignancy whereas all the patients with chronic HCV infection attending the hospital medical services were included in this study.
Results: The mean age of the patients was 43.56±9.7 years. Out of the total 83(66.4%) were males and 42(33.6%) were females. We observed that 50 (40%) of the patients were with dermatological manifestations. Pruritus was found commonest among 28(22.4%) patients with no evident skin lesions. Whereas the evident skin lesions found in 3 (24%) HCV patients.
Conclusion: The risk of developing lesions is higher in HCV patients who have various dermatological disorders. Hence the infections of HCV should be sought properly and carefully.
Key words: Hepatitis C virus, Dermatological manifestation, Porphyria cutanea tarda, Extrahepatic disorders

INTRODUCTION

Hepatitis C virus (HCV) affects approximately 130 to 170 million people worldwide, with an estimated 3.2 million people infected in the United States. Globally, approximately 350,000 deaths each year are attributed to liver disease. Hepatitis C was discovered in 1989 and was shown to be a single stranded ribonucleic acid (RNA) virus belonging to a flaviviridae group. HCV is a hepatotropic and lymphotropic virus that causes not only hepatic manifestations, but also a significant number of extra-hepatic manifestations (EHMs). Approximately 74% of patients with hepatitis C will have HCV-related EHMs of some severity in their lifetime. Hepatitis C virus (HCV) infection is mostly symptom less, but plentiful extra hepatic ailments, like skin diseases have been known in connotation with HCV contagion[1-8].

Hepatitis C virus affects 170 million people worldwide1 while in Pakistan the estimated prevalence ranges from 6-20%.2,3 HCV is a major cause of both acute and chronic hepatitis and hepatocellular carcinoma worldwide. Majorly HCV infected patient possessed cutaneous lesions in common. It may lead towards oculate HCV infection encounter.[8] Other dermatological diseases like mixed cryoglobulinaemia, porphyria cutanea tarda and lichen planus are mostly connected to HCV but few like erythema multiforme and nodosum may also have association with HCV[2]. It is assumed that the dermatological manifestations contrasts in its prevalence, the reason behind may be the regional differences or due to genetic or environmental variances[3].

The pathogenesis related to dermatological manifestations stays indefinite in many cases. These manifestations may be due to the virus replication in certain lymphoid cells. Some authors have other opinion of mixing immune complexes comprised of HCV antigens and antibodies residue.[4] For many patients cutaneous manifestations may be the only or the earliest sign of underlying HCV infection. Awareness of these conditions by healthcare providers will facilitate better evaluation and management of these patients to prevent life threatening complications as well as to prevent further transmission of disease. Local data regarding cutaneous manifestations associated with HCV infection is scarce in Pakistan, hence this study was planned to determine the nature and frequency of various dermatological features in patients of HCV.

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MATERIALS AND METHODS

The observational cross sectional study was conducted in Outpatients Department (OPD) and Indoor Department of Medicine, Amna Inayat Medical College Sheikhupura from 1st March 2017 to 31st August 2017. A total of 125 patients were selected for this study. The exclusion criteria includes all the patients with comorbidities along with HCV, liver diseases especially due to hepatitis B, renal diseases, diabetes mellitus and malignancy whereas all the patients with chronic HCV infection attending the hospital medical services were included. Patient's demographic, socioeconomic and diagnostic findings were collected via well-defined questionnaire and blood test reports. Standard operating procedures were followed for diagnosis of HCV (ELISA kit, Sorin Biomedical, Italy). All the clinical examination like patients mental state, pulse rate, blood pressure, signs of liver cell failure, jaundice and examination of chest and heart was done haematologist and dermatologist. The data was entered and analyzed through SPSS-20.

RESULTS

The mean age of the patients was 43.56±9.7 years. Out of the total 83(66.4%) were males and 42(33.6%) were females (Table 1). We observed that 50(40%) of the

patients were with dermatological manifestations. Pruritus was found commonest among 28(22.4%) patients with no evident skin lesions whereas the evident skin lesions found in 30(24%) of HCV patients (Table 2). The association of liver and spleen oddities and ascites with dermatological indices in patients with HCV infection has been given in Table 3.

Table 1: Demographic information of the patients

Variable	No.	%
Gender		
Male	83	66.4
Female	42	33.6
Age (years)	43.56±.7	

Table 2: Frequency and percentage of dermatological manifestations

Dermatological manifestations	No.	%
Pruritus without skin lesions	28	22.4
Pruritus with skin lesions	30	24.0
Pigmented purpuric eruption	5	4.0
Aphthous ulcer	4	3.2
Lichen planus	3	2.4
Leukocytochclastic vasculitis	3	2.4
Psoriasis	2	1.6
Tinea versicolor	2	1.6
Localized neurodermatitis	1	0.8
Urticaria	1	0.8
Pitiriasis rosea	1	0.8

Table 3: Relationship of liver and spleen oddities and ascites with dermatological indices

Dermatological indices	HCV patients with dermatological manifestation (n=30)	HCV patients without dermatological manifestation (n=28)	RR	
Liver (P value=0.002)				
Normal size	2 (7%)	9 (32%)	-	
Hepatomegaly	13 (43%)	16 (57%)	3	
Shrunken	15 (50%)	3 (11%)	7	
Spleen (P value=0.004)				
Normal Size	6 (20%)	17 (61%)	-	
Splenomegaly	24 (80%)	11 (39%)	2.5	
Ascites (P value=0.004)				
Absent	25 (83.3%)	24 (86%)	-	
Present	5 (16.7%)	4 (14%)	2.1	

DISCUSSION

The study was conducted to determine the relationship of dermatological manifestations with HCV infection and impact on liver. Evident reports available that emphasize the relation of HCV infection with various dermatological manifestations[1,9]. The dermatological manifestation prevalence may vary from region to region. One of the study conducted by Paoletti et al[10] observed the dermatoses prevalence of almost 13% in all HCV patients. In our study we have observed dermatological manifestations in 50 (40%) of patient infected with HCV. Due to the geographical differences and presence of a different genotype of HCV in local population the rate or the numbers are high. As per other published studies the HCV genotypes can be different depending upon the geographical region or the environment.[11]

We have observed in our study the most cases were pruritus with evident dermatological lesions and we reported a significant relation of hepatomegaly, shrunken liver with pruritus, and the risk ratio is almost double with shrunken liver. We also report significant association of splenomegaly with pruritus. The earlier association is more significant than later statement/ results. These findings are in line with Cacoub et al., results. He also observed the pruritus as commonest as diabetes mellitus among HCV infection cases.[7] Other studies found lesser cases with prurius observed 1% by Peoletti et al.[10] It is proposed that the bile salt in the skin, liver metabolites and histamine presence may leads to iching but the actual process is still under study or unknown[12].

We have observed the pigmented purpuric outburst in our HCV patients. This pigmented Purpura when in relation to brown-pigmented scratches leads to caplillaritis.[13] This explains the narrowing of the lumen with perivascular-lymphocytic infiltrate, which may produce a cellular immune response[14]. We observed in our study the lichen planus percentage is similar to a study conducted in France but different from Japanies study.[15,16] This is another evidence of genetic or genotype variation. Lichen planus etiology is not well known may be it is linked to virus-related copying in lymphocytes.[1] It is coincidence that two conditions present the same time, thatswhy complete screening of patients with lichen planus is recommended[17].

The percentage of leukocytoclastic vasculitis in our study is consistent with the finding of Hartmann et al.[18] Immune fixations have a role in HBV and HCV induced vasculitis and in cryoglobulinaemic vasculitis.[19] Other dermatologic abrasions like, scabies, melasma, stasis eczema etc. were also present in our study population but there was only one case each. We were unable to find other studies mentioning the relation of these lesions with HCV in the region. That is why we may recommend more studies with larger sample size to know more about the association.

CONCLUSION

The risk of developing lesions is higher in HCV patients who have various dermatological disorders. Hence the infections of HCV should be sought properly and carefully.

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