ORIGINAL ARTICLE

Seropositivity of Hepatitis C Virus in Patients of Acute and Chronic Urticaria

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ABSTRACT

Background: Hepatitis C virus (HCV) disease is associated with numerous dermatologic signs. Urticarial vasculitis and urticaria with mixed cryoglobulinemia are well known associations. Regular urticaria with short-lived wheals may likewise be one of the cutaneous signs of HCV contamination.
Aim: To determine the frequency of HCV in patients of acute and chronic urticaria.
Methods: This cross sectional study was carried out in the Department of Dermatology on Outdoor basis at Pak Red Crescent Medical & Dental College/Hospital Dina Nath, Kasur from 01-02-2019 to 31-07-2019. After approval by ethical committee and taking informed consent from 111 pts who fulfilling the inclusion criteria were enrolled
Results: Patients ranged between 20-60 years of age. Mean age of the patients was 38.13±9.84. Out of 111 patients, 34 (30.6%) were males while 77 (69.4%) were females. Mean duration of disease was 4.53±2.54 years. Acute urticaria found in 25 patients (22.5%) and chronic urticaria observed in 86 (77.5%). Anti-HCV antibodies were present in 18 patients (16.2%). Stratification with regard to age, gender and duration of urticaria was carried out.
Conclusion: It is concluded that HCV infection may have caused urticaria in patients. It is prescribe that HCV status should be checked in patients giving urticaria. Further literature are relied upon to set up an association, aetiopathogenic role and cost implications of screening or treatment of HCV in urticaria.
Keywords: Seropositivity hepatitis C, Acute urticaria, Chronic urticaria

INTRODUCTION

Urticaria is defined as an eruption of pruritic, transient, well demarcated erythematous or pale swellings of the dermis, associated with a surrounding flare initially. It can be acute <6 weeks or chronic >6 weeks[1]. It occurs acutely at some time in 20% of population while incidence of chronic urticaria is approximately 0.5%[2]. It is defined clinically as ordinary urticaria, physical urticaria, cholinergic urticarial, urticarial vasculitis, contact urticaria and angioedema. Pathogenesis involves mainly activation of mast cells causing release of proinflammatory cytokines, predominantly histamine that leads to increase in the permeability of capillaries and venules causing extravasation of plasma into the dermis.[1] Triggering factors include drugs, food additives, aeroallergens and infections but etiology still remains unclear.[3] Among infectious causes hepatitis B is a known cause but hepatitis C is also turning out to be important, however, association still remains tenous.

Hepatitis C is the main etiological agent of chronic liver disease worldwide. In most countries prevalence rate of Hepatitis C is 1-2%. In Pakistan it is 4.7%.[4] Chronic HCV infection is associated with various cutaneous disorders like cryoglobenimia, porphyria cutanea tarda, urticaria, erythema multiforme and polyarteritis nodusa[5]. In the previous decades a few cutaneous indications of HCV disease have been observed. Urticaria has been reported as one of them[5].

Various studies have been conducted on frequency of HCV infection in patients with urticaria. Rehman A in 2012 in Pakistan demonstrated that anti-HCV antibodies were detected in 7.8% of patients with urticaria.[7] Halawani M in 2012 in Saudi Arabia reported 7.1% patients were anti HCV positive[8]. Dinu et al reported anti-HCV antibodies in 1.27% patients of acute urticarial and 2.38% patients of chronic urticaria[9]. Malik and Mufti in 2008 in Pakistan reported 12.5% of patients with urticaria were positive for anti-HCV antibodies[6]. Bhatt TA in 2010 however demonstrated none of the patient among urticarial group as well as control group was found to be anti-HCV positive[1].

Received on 14-08-2019
Accepted on 18-12-2019

MATERIAL AND METHODS

This cross-sectional study was done in Dermatology Department on Outdoor basis at Pak Red Crescent Medical & Dental College/Hospital Dina Nath, Kasur from 01-02-2019 to 31-07-2019. After approval by ethical committee and taking informed consent from 111 patients who fulfilling the inclusion criteria were enrolled in the study. A detailed history and clinical examination was done in all patients. Diagnosis of urticaria was made by clinical assessment by researcher herself. The demographic data such as age, gender and type of urticaria was collected. Blood sample of patients was drawn and sent to laboratory for detection of anti-HCV antibodies by third generation enzyme linked immunosorbent assay. All samples were sent to the same laboratory. Quantitative variables such as age and duration of illness was presented in the form of mean±S.D. Qualitative variables such as gender and anti-HCV antibodies (present/absent) status was presented using percentage and frequency. Stratification of data was done on the bases of age, gender and duration of urticaria. Applied Chi-square test for post-stratification to check the significance.

RESULTS

Patients ranged between 20-60 years of age. Mean age of the patients was 38.13±9.84 (Table 1). Out of 111 patients, 34 (30.6%) were males while 77 (69.4%) were females (Table 2). Mean duration of disease was 4.53±2.54 years (Table 3). Acute urticaria found in 25 patients (22.5%) and chronic urticaria observed in 86 (77.5%) (Table 4). Anti-HCV antibodies were present in 18 patients (16.2%) (Table 5).

Stratification with regard to age, gender, and duration of urticaria was carried out and presented in Tables 6-8.

Table 1: Distribution of patients by age (n=111)

Age (Year)	No.	%
20-40	70	63.1
41-60	41	36.9
Mean±SD	**38.13±9.84**	

Table 2: Distribution of patients by gender (n=111)

Gender	No.	%
Male	34	30.6
Female	77	69.4
Total	**111**	**100.0**

Table 3: Distribution of patients duration of urticaria

Duration (Year)	No.	%
≤ 5	75	67.6
> 5	36	32.4
Mean±SD	4.53±2.54	

Table 4: Distribution of patients type of urticaria

Type of urticaria	No.	%
Acute urticaria	25	22.5
Chronic urticaria	86	77.5

Table 5: Anti-HCV antibodies

Anti-HCV antibodies	No.	%
Present	18	16.2
Absent	93	83.8

Table 6: Stratification with regard to age

Age	Anti-HCV Antibodies		Total	P value
	Present	Absent		
20-40	11	59	70	0.851
41-60	07	34	41	

Table 7: Stratification with regard to gender

Gender	Anti-HCV Antibodies		Total	P value
	Present	Absent		
Male	5	29	34	0.774
Female	13	64	77	
Total	18	93	111	

Table 8: Stratification with regard to duration of urticaria

Duration	Anti-HCV Antibodies		Total	P value
	Present	Absent		
≤ 5	11	64	75	0.523
> 5	07	29	36	
Total	18	93	111	

DISCUSSION

Hepatitis C infection (HCV) may have impacts on the liver as well as non-hepatic tissues and might be related with numerous inconsequential illnesses and morbid conditions[10]. During the earlier decade different dermatological appearances of HCV disease have been noted but all have not been proved. Urticaria is among one of them[11].

Urticaria has a range of various clinical presentations and causes[12]. Urticarial vasculitis is a type of little vessel vasculitis which may give both urticaria and joint pain. It has perceived relationship with HCV infection[13]. The more typical customary urticaria without vasculitis, described by short lived wheals, in any case, has additionally been accounted for as an extra-hepatic indication of HCV infection[14].

The hepatitis C disease is a RNA infection that is an integral reason for acute and chronic hepatitis. It is contracted mostly through parenteral presentation to contaminated material.[15] Although the frequency of transfusion-related hepatitis C infection has declined significantly since the act of blood screening, this change has little effect on generally disease occurrence[16].

In developed nations, the prevalence rate of seropositivity are ordinarily less 3% while they may be as high as 10%-30% in certain endemic zones for instance in Egypt[17]. Its recurrence is alarmingly on the rising in Pakistan. As demonstrated by various investigations the prevalence of hepatitis C seropositivity in Pakistani people is between 4-7%[17]. Its rate is alarmingly on the ascent in Pakistan. As indicated by different examinations the prevalence of hepatitis C seropositivity in the general Pakistani populace is between 4-7%[18].

In acute and chronic hepatitis C are asymptomatic in numerous patients. The constant hepatitis C is connected with different extra-hepatic signs among which skin problems are very common[19]. Often, the dermatosis is the primary clinical evidence of the fundamental sickness and tremendous quantities of these patients are first seen by dermatologists. A part of the skin issue have settled association with hepatitis C disease, like porphyria cutanea tarda (PCT), cutaneous necrotising vasculitis, mixed cryoglobulinemia and lichen planus[20,21].

Our results are as per some same studies done in previously. A study reported by Kanazawa (1996) in Japan, a relationship among urticaria and hepatitis C.22 Ahmed and associates (2003) found that 13.4% of urticaria patients had positive HCV antibodies.23 These results were close to our figure of 16.2%.

Our outcomes contrast from those of Kanazawa et al21 who found a 24% prevalence of HCV disease among urticaria patients. These discrepant outcomes are bound to be because of these epidemiological highlights than to a particular role of the infection in urticaria.

In present study mean age was 38.13±9.84 year while a study by Cribie et al demonstrated 42.1 years[24]. There were 30.6% females and 69.4% males in our study which is comparable with findings of Malik et al where they also demonstrated females dominance[6].

CONCLUSION

In conclusion, in patients the HCV disease may have caused urticaria. It is propose that HCV status ought to be checked in patients giving urticaria. Further investigations are expected to build up an affiliation, aetiopathogenic role

and cost implications of screening or treatment of HCV in urticaria

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