Relation between Psoriasis Severity and P53 Apoptosis Marker in HCV Infection in Mansoura

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Abstract: Background: It has been planned that hepatitis C virus (HCV) antigens are elaborate in the pathogenesis of psoriasis and may underwrite to the cruelty of the disease. Enlarged levels of the apoptosis-regulating proteins p53 in the keratinocytes of the skin of psoriatic patients have been reported. Objective: study aimed to identify the serum levels of P53 apoptosis regulating protein in patients with psoriasis with and without HCV infection . Methodology: This case control study was conducted. The present study comprised (28) patients diagnosed with psoriasis one of the differential diagnoses presented to the dermatologic outpatient clinic in Mansoura University Hospital. The cases were collected within a duration of 6 months from May 2019 to October 2019. Results: According. to severity measured by PASI score,5 patients (17.8%) were severe, 6 patients (21.5%) were mild and 17 patient (60.7%) was moderate. there was a highly significant increase P53 in Psoriasis assembly related to the control group. There was a highly substantial positive correlation between PASI score and P53 level. There was a highly momentous positive connection P53 level and psoriasis affection. There was a statistically significant increase in HCV Ab in the psoriasis group. There was no statistically significant difference between HCV among the degree of severity and P53. There was no correlation between age among severity and p53

key words: apoptosis marker-protein, Hepatitis C virus, P53, Psoriasis**,**

Introduction

Psoriasis is pigeonholed by hyper-proliferation and unusual distinctions of keratinocytes, by the manifestation of inciting cell permeate in both the dermis and the surface and by modification of vessels.

Although there are varied etiological factors in the pathogenesis of psoriasis, recent data shows that hepatitis C virus (HCV) is more dominant in patients with psoriasis than in the normal populace **(1, 2, 3, 4).**

It has been proposed that hepatitis C virus (HCV) antigens are involved in the pathogenesis of psoriasis and may contribute to the severity of the disease. P53 protein is the main record factor that plays a central role in cell cycle guideline machinery and cell production control. P53 protein appears to be an important factor in the pathogenesis of psoriasis **(5, 6, 7).**

This study intended to identify the serum levels of P53 apoptosis variable protein in patients with psoriasis with and without HCV smog and to study the relative between clinical brutality of psoriasis and the attendance of HCV infection.

Materials and methods

The present study comprised (28) patients diagnosed with psoriasis one of the differential diagnoses presented to the dermatologic outpatient clinic in Mansoura University Hospital. These cases were collected within a

duration of 6 months from May, 2019 to October, 2019. They were (20) males 71.4% and **(8)** females 28.6%، aged 18 to 60 years (median age, 46.46± 12.69 years). Ready of these 28, age- and sex harmonized strong personages (12 men and 16 women, age range: 18-65 years) with a nasty age of 34.75± 10.35 years were particular as panels who appeared dull strength check-ups at the hospice.

Dermatological examination

Judgment of psoriasis was founded on its medical exhibition (red papules and plaques covered by silver white scales that showed Auspitz sign). All patients were separated into two proven groups: Psoriasis group and control group. An appraisal of psoriasis groups were completed with the experimental groups. All patients were subjected to immunological examination.

Sickness sternness were assessed by psoriasis area cruelty index score (PASI) of patients with psoriasis grouped as minor, moderate and severe. Healthy individuals were be cast off as wheels. All groups were be imperiled to extensive antiquity taking, clinical investigation,

Assessment of HCV antibodies

Expanding enzyme-linked immunosorbent examination finding of chronic HCV were recognized by Estimate of persons having HCV antibody (anti-HCV) by a third group enzyme immunoassay (EIA) according to the manufacturer's commands.

HCV RNA quantitative test:

HCV RNA quantification was through using Cobas Ampliprep Taqman Real-time PCR (CAP-CTM) with HCV RNA quantification kits (HCV- RNA was sequestered conferring to the producer's commands.

Determination of apoptotic marker (P53)

The quantification of p53 meditation in serum was gritty using photometric one-step-enzyme-immunoassay ELISA kit `2.

Data administration and statistical analysis

Data were collected, coded, deliberate and inwards to the Statistical Package for Community Discipline (IBM SPSS) change 20. *Chi-square test* was subsequent arrow in the **Table (1):** Demographic data of the studied groups

conclusion amongst two sets with qualitative data and *Fisher exact test* was used in its apartment of the Chi-square test when the expectable total in any cell devise less than 5. *Independent t-test* was used in the association among two groups with geometric data and parametric supply and *Mann-Whitney test* was used in the effect between two groups with measureable figures and non-parametric transfer. The promise wait was set to 95% and the boundary of fault familiar was set to 5%.

Results

Among the psoriasis group, 20 patients (71.4%) were males; the mean age was 46.46 years among psoriatic patients. The difference between males and females was statistically significant among psoriasis and the control group. The difference in mean age was statistically significant among psoriasis and the control group **(Table 1)**.

Among the Psoriasis group 8 patients (28.6%) had positive HCV Ab. There was statistically significant increase in HCV Ab in the psoriasis group. All control group were negative (Table 2).

Among the psoriasis group, 5 patients (17.8%) had severe psoriasis, 6 patients (21.5%) had mild psoriasis and 17 patients (60.7%) had moderate psoriasis (**Figure 1).**
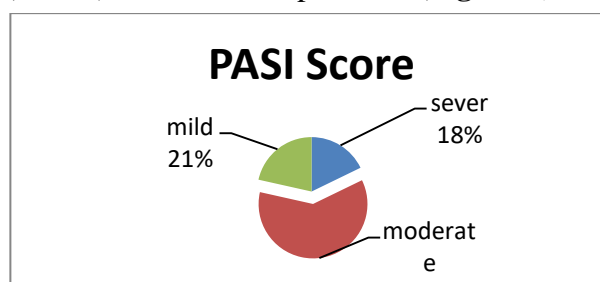

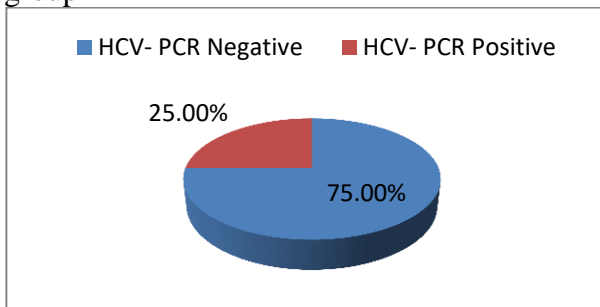
Figure (1): Degree of severity among psoriasis group

Figure (2): HCV PCR among Psoriasis group with HCV Ab positive

Demographic data	Psoriasis group(No.=28)			Controls group(No.=28)		Chi square test/Independent t test*	
	No	%		No	%	x^2/t*	pvalue
Sex	Female	8	28.6%	16	57.1%	4.67	0.01
	Male	20	71.4%	12	42.%		
Age	Mean ± SD	46.46± 12.69		34.75± 10.35		3.785*	<0.01

X^2 : Chi square test | t*: T test

P > 0.05 non significant | P < 0.05 significant

P < 0.001 High significant

Table (2): Comparison between psoriasis group and controls group as regard anti HCV antibodies

		Psoriasis group(No.=28)		Controlsgroup(No.=8)		Chi square test/	
		No	%	No	%	x^2	pvalue
Anti HCV Ab	Negatie	20	71.%	28	100.0%	9.333	0.002
	Positive	8	28.%	0	0.0%		

X^2: Chi square test

P > 0.05 non-significant

Among the psoriasis group which had HCV positive 6 patients (75%) had negative PCR and 2 patients (25%) had PCR positive (Figure 2)**.**

Among the psoriasis group with HCV ab positive 2 (25%) patients were mild, 5 (62.5%) patients were moderate and 1(12.5%) patient was severe. There was no statistically significant difference between HCV among severity (PASI) **.**There was no statistically significant difference between HCV among degree of severity and P53 **Table 3).**

Table (3): Comparison of psoriasis characteristics among HCV positive and HCV negative in the psoriasis group

		PS + HCV Positive(No:8)		PS + HCV Negative(No:20)		Chi square test/Independent t test	
		No	%	No	%	X^2/t*	p value
PASI score	Mild	2	25%	4	20%	0.253	0.881
	Moderate	5	62.5%	12	60%		
	Severe	1	12.5%	4	20 %		
PASISeverity	Mean ± SD	22.38± 19.42		25.95± 19.70		0.435*	0.667
P53	Mean± SD	2116.57± 2255.03		1527.29± 2135.82		-1.004	0.320

PS: Psoriasis, HCV: Hepatitis C Virus

X^2 : Chi square test | t*: T test

P > 0.05 non significant

Table (4): Correlation between age with severity and p53

	Age	
	r	p value
Severity(PASI)	-0.289	0.136
P53	0.148	0.275

Table (5): Correlation between severity of psoriasis measured by PASI score and P53 level.

	Severity (PASI)	
	r	p value
P53	0.322	0.009

There was no correlation between age among severity and p53 **(Table 4).** There was

highly significant positive correlation between PASI score and P53 level **(Table 5).**

There was highly significant positive correlation between PASI score and P53 level

Discussion

As regard demographic data, among the psoriasis group 8 patients (28.6%) were females, 20 patients (71.4%) were males, and the mean age was 46.46 years among the psoriasis group. The difference between male and females was statistically significant among the group and Controls group. The difference in mean age was statistically significant among Psoriasis group and Controls group. In contrary to our results, study of Nakhwa *et al.*, (5) the

initiate that There was no substantial arithmetic difference in age and sex of cases and pedals. Whereas Jankovic *et al.,* (6) revealed that cases of psoriasis and controls did not differ in terms of age, sex, body mass index or educational level.

In the relationship between psoriasis and HCV, previous researchers investigated serum HCV antibody levels and/or plasma HCV RNA concentration using ELISA and real-time PCR, respectively. Additionally, HCV mRNA in the tissue of psoriasis patients was detected in the psoriatic lesion in one patient having psoriasis vulgaris and another one having pustular psoriasis **(7).**

The present study showed that among Psoriasis group 8 patients (28.6%) had positive HCV Ab. There was a statistically significant increase in HCV Ab in the psoriasis group. While all controls group was negative anti HCV ab. Among Psoriasis group which had HCV positive 6 patients (75%) had negative PCR and 2 patients (25%) had PCR positive. Among the psoriasis group with HCV ab positive 5 patients (62.5%) were mild Psoriasis, 2 patients (25%) were moderate Psoriasis and 1 patient (12.5%) were severe Psoriasis. There was no statistically significant difference between HCV among severity (PASI). Our results were supported by the study of FARAG *et al.*, (7) as they reported that HCV protein immunoreactivity was observed in half of the studied psoriatic cases demonstrating moderate and strong intensity in 60% of them. However, in HCV-positive non-psoriatic patients, HCV protein expression was significantly higher than those of psoriasis patients (85%) but was mostly of mild intensity. Therefore, they could not support the suggestion that the presence of HCV infection participates in the occurrence of psoriasis**.**

According to Andrade et al., (9) from the 140 patients involved in the training, 7.1% were anti-HCV positive inveterate by the exposure to HCV RNA. PASI score was higher in positive anti-HCV patients than in their negative equivalents (19.5 versus 13.4)**.** The current study revealed that among the psoriasis group 5 patients (17.8%) had severe psoriasis, 6 patients and 17 patients (60.7%) had Moderate psoriasis (21.5%) had mild psoriasis.

In the study, 5 patients (62.5%) were severe, 2 patients (25.0%) were mild one1 patient (12.5%) was restrained**.** There was no statistically substantial modification between HCV among degree of severity and P53. There was no connection between age among severity and p53 **(11).**

Conclusion

These data advocate that the incidence of HCV impurity potency be one of the prompting factors of psoriasis. Lastly, the purpose of apoptosis-regulating proteins in the serum could be valuable as analytical indications and beneficial goals for psoriatic illness

Conflict of interest: no conflicts of interest**.**

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