

Frequency of Hepatitis B and Hepatitis C in Psoriatic Patients

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ABSTRACT

Objective: To determine the frequency of hepatitis B and hepatitis C in psoriatic patients.

Study Design: Prospective cross-sectional study

Place and Duration of Study: This study was conducted at the Dermatology Department of a Tertiary Health Care Facility, Dow University of Health Sciences & Civil Hospital Karachi from January 2014 to December 2014.

Materials and Methods: Irrespective of age and sex, a total of 47 patients with diagnosis of psoriasis and psoriatic arthritis were enrolled for this study.

Results: Out of 47 eligible subjects, 89.4 % were male. Most of the patients (36 %) had a body involvement of 25-50 % and the commonest type of psoriasis was plaque type. On further analysis, 8 % of the subjects were found to be positive for HBsAg on ICT method, but only 6.4 % confirmed positive on CMI techniques. Anti HCV Antibody reported positive in 10.6 % of the patients on ICT methods and the same results confirmed on CMI techniques.

Conclusion: The number of psoriatic patients suffering from hepatitis B & C virus is not very much significant but should be considered. Once it is positive, then the treatment options are totally different.

Key Words: Hepatitis B, Hepatitis C, Psoriasis

Citation of article: Talat H, Talreja D, Maryam H, Wahid Z. Frequency of Hepatitis B and Hepatitis C In Psoriatic Patients. Med Forum 2016;27(7):38-41.

INTRODUCTION

There is an important role Hepatitis B and C in the causation of liver chronicity and ultimately cirrhosis. Even patient may end in hepatocellular carcinoma because of these viral infections. The prevalence of both HCV and HBV is increasing globally day by day. Pakistan is among those countries in which the burden of these type of infections are highest and ultimately the mortality because of the complications of Hepatitis B and C are quite common and documented prevalence had been reported between 2% to 5%^{1,2}.

Psoriasis is among one of the common dermatological disease which a dermatologist has to deal in his or her clinical practice. It is a chronic dermatological inflammation and has complex etiology. It has a relapsing and remitting tendency. In general population the prevalence of psoriasis is relatively high and reported up to 0.6% - 4.8 %. The most common form of psoriasis is plaque psoriasis³. The clinical presentation of this variant is a salmon pink coloured scaly plaques over the skin. The other form of psoriasis are guttate, pustular and erythrodermic psoriasis. There is a direct or indirect association that psoriasis can be associated with hepatitis B and C infection and had been reported by several authors^{4,6,7}.

As already been stated that there is an association between psoriasis and HCV infection and in dermatology literature it is said that HCV can be a concomitant pathology with psoriasis.

Pathophysiology behind this phenomena is that the elevated tumor necrosis factor - α in hepatitis infections cause progression of a hepatic disease into a dermatological disease which clinically presents as psoriasis. Association of psoriasis and psoriatic arthropathy. Psoriatic arthropathy is present in 30 % of patients who had psoriasis and it also has strong correlation with hepatitis C infection.

There is a greater risk of developing hepatitis B and C among psoriatic patients and route of entry for these viruses is via intravenous pricks or by skin cuts.

Treatment of psoriasis with or without arthropathy with hepatitis C infection is very challenging and demands special care. The drugs which are available for the treatment of psoriasis is hepatotoxic and if used can cause extensive and irreversible hepatocellular damage. Most common therapy for psoriatic patients include methotrexate, cyclosporine and mycophenolatemofetil but there are limitation for these drugs to be used in psoriatic patients with hepatitis C infection as it can exacerbate the viral load of HCV which will further damage the liver. Nevertheless these patients have a drug regimen which can be used in this type of infection without further liver damage. and this includes interferone with ribavirin (5) but the cost is a major obstacle for the treatment (8). But there is very good alternative which is a combination of interferon with etanercept and has minimal side effects and is proving to be effective in the treatment of psoriasis with or without arthropathy and HCV.

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MATERIALS AND METHODS

It is a prospective cross-sectional study, conducted in dermatology department of tertiary health care facility, DOW University of Health Sciences & Civil Hospital Karachi. The time period was from January 2014 to December 2014. After approval from the hospital ethical review committee and consent from the patients the study was carried out in a total of 47 diagnosed patients of psoriasis.

Sampling technique was non probability and consecutive. Demographic data was recorded along with age and sex. Patient body surface area was also recorded. Viral markers on ICT(kit) and ELISA technique were evaluated.

Any dermatologist document regarding the detail of type and duration of psoriasis were also analyzed along with area of body involvement, presence of psoriatic arthropathy and treatment history.

Special biochemical tests include transaminases were also recorded.

Inclusion criteria include patients of both genders

- 1) Clinically or histologically diagnosed psoriasis by a dermatologist
- 2) Aged between 18-70 years
- 3) With or without psoriatic arthropathy

Exclusion criteria include

- 1) Suffering from HIV or disseminated TB and
 - 2) Taken any treatment for Hepatitis B or C in past.
- Statistical analysis was performed using SPSS version 17. Quantitative data was described by mean and standard deviation while qualitative data was described by frequency and percentage.

RESULTS

Total of 47 patients were included in this study out of which approximately 90% of the patients were males. Sixty eight percent of the patients were greater than 36 years. Majority of the patients had upto 50 % involvement of body (table 1). Most common type of psoriasis in this study was of plaque variant (fig 1).

Eight percent of the patients were found to have HBsAg and were diagnosed by ICT methods while 6.4% of the patients were diagnosed on CMI method.

Patients who were found to be positive for Anti HCV Antibody were 10.6% for both ICT and CMI techniques.

There was no patients who suffered from hepatitis and had guttate and pustular type of psoriasis (Table #2). Only 1 hepatitis patient reported positive with the plaque and erythrodermic types.

Table No. 1: Demographic characteristics and pattern of Psoriasis patients with Hepatitis C virus antibody (ANTI-HCV)

Characteristics	No	Percent %
Age (Years)		
18 – 25	8	17.0
26 – 35	7	14.9
36 – 45	12	25.5
46 – 55	8	17.0
55-70	12	25.5
Gender		
Female	5	10.6
Male	42	89.4
Surface area affected		
< 25 %	8	17.0
26 - 50 %	17	36.2
51 - 75 %	10	21.3
76 - 100 %	12	25.5
Hbs Antigen ICT		
Test Negative	43	91.5
Test Positive	4	8.5
Hbs Antigen CMI		
Test Negative	44	93.6
Test Positive	3	6.4
HCV Antibody ICT		
Test Negative	42	89.4
Test Positive	5	10.6
HCV Antibody CMI		
Test Negative	42	89.4
Test Positive	5	10.6

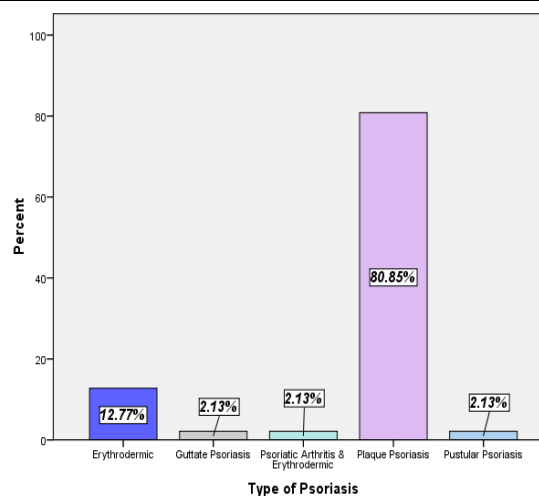


Figure No.1: Type of psoriasis in percentage.

Table No.2: Relationship of type of psoriasis with Hepatitis B and Hepatitis C antibody on CMI technique.

	Erythro-dermic	Plaque	Guttate	Pustular	Total
Hep B	1 pt.	2 pts.	nil	nil	3
Hep C	3 pt.	2 pt.	nil	nil	5

DISCUSSION

Psoriasis is a noncontagious skin lesion that produce plaques of thickened scaling on skin which ends in a chronic disfiguring state of the skin. It has a high association with metabolic complication present in metabolic syndrome¹⁰. These complications include diabetes mellitus, hyperlipidemia, obesity, hypertension and cardiovascular diseases^{12,13} either as an alone entity or in combination.

Navne et al reported a strong correlation of psoriasis with hepatitis B and C and also the sequeale if treated with interferon.^{11,14}

This study includes 47 patients all of them had psoriasis with or without arthropathy with malepreponderance. There was more patients with hepatitis C infection than HBsAg (6.4%vs 10.6%) diagnosed with CMI technique. Patients in whom antibodies were detected,⁷ were males and 1 was female and the ratio of antibody detected is 7:1. One study shows similar results for Hepatitis C; on ELISA, anti-HCV antibodies were detected in 6/50 (12%) patients with PsA and in 5/50 (10%) patients with psoriasis¹⁵. While study conducted by Khan, G., et al¹⁶, shows only 3.86% of psoriasis patients were suffering from hepatitis C virus. In our study out of these 8 Hep B antigen positive patients,⁷ were males and 1 was female patient. Male preponderance was seen in this study and male to female ratio of psoriatic patients was 42: 5, however the ratio of antibody detected is 7:1.i.e 7 males and 1 female patient; one recent study shows similar results with higher male to female ratio with viral hepatitis¹⁷.

The first presentation of the patients in our study was psoriasis however they later acquired hepatitis and were diagnosed by positive serology during the course of their illness.¹⁸

There is scanty literature regarding psoriasis and hepatitis and one of the reason of doing this study is to share the incidence in our part of the world. Furthermore few interesting results found in our study showed that all the patients who had hepatitis B or C were suffering from erythrodermic or plaque psoriasis with more incidence of HCV in erythrodermic type and HBsAg positive in plaque type. Another study confirms that more severe skin lesion were found in patients who were AntiHCV positive¹⁸. Taha, EA, et al¹⁹ concluded in his study that, When HCV was found concomitantly with PV, a high possibility of severe disease pattern will be expected that entails special precautions in the treatment process. Anti-TNF agents, particularly etanercept, and ustekinumab are effective and likely safe in most of the patients with chronic hepatitis C or B²⁰.

Only very few patients had aggressive type of psoriasis which include arthropathy.

CONCLUSION

The most likely route of infection of hepatitis in psoriasis patients is by parenteral or skin abrasions. There is not marked difference between the infections of HCV and HBsAg and the overall incidence is also not very high. Nevertheless screening for viral hepatitis is mandatory in every psoriatic patients as treatment modality is based on the positivity of viral markers which differs widely in both the groups.

Take home message from our study is derived on this fact that we strongly recommend viral markers in every psoriatic patients and it is always advisable to treat these patient under multidisciplinary approach which include a dermatologist and hepatologist.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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