ORIGINAL RESEARCH PAPER

Dermatology

PREVALENCE OF HBSAG AMONG PSORIASIS PATIENTS ATTENDING DERMATOLOGY OUTPATIENT DEPARTMENT,TERTIARY CARE CENTRE AT KARAIKAL.

KEY WORDS: Psoriasis, Hepatitis-B, HBV

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ABSTRACT

Background: Psoriasis is a chronic inflammatory disease involving complex abnormalities of epithelial growth and differentiation related to biochemical and immune responses[1]. Based on recent studies, on evaluating the relationships between psoriasis and systemic diseases, such as cardiovascular disease and metabolic syndrome, psoriasis has been accepted as a systemic inflammatory disease[2]. Among infectious diseases, hepatitis B virus (HBV) is the cause of chronic liver disease. As both psoriasis and viral hepatitis share the common characteristics of chronic inflammation and immune response, it has been hypothesized that HBV may trigger or aggravate psoriasis.
Methodology: We analyzed prevalence of HBV infection and psoriasis and the relationship between them from 100 patients who visited the Department of Dermatology at Vinayaka Missions Medical College , Karaikal from July 2019 to September 2019. Data were analyzed using SPSS version 13.0. P values ≤0.05 were considered significant number.
Results: A total of 100 patients (57 men & 43 women) with psoriasis were evaluated for HBV infection. The 2 patients of 100 psoriasis patients were on diagnosis of HBV and other 7 patients of psoriasis group were positive of HBs Ag test. Therefore, HBV infection of psoriasis group was 9 patients.
Conclusion: This study to investigate the epidemiologic association between psoriasis and HBV infection did not find a significant prevalence of HBV infection in patients with psoriasis.
However, a larger population-based study may help to clarify the findings of this study.

INTRODUCTION:

Hepatitis B infection is caused by a DNA (deoxyribonucleic acid) virus, the hepatitis B virus (HBV). HBV is the prototype member of the Hepadnaviridae family. Members of this family of viruses have a narrow host range and predominantly infect hepatocytes in their respective hosts[3].HBV infection can be either acute or chronic and may range from asymptomatic infection or mild disease to severe or rarely fulminant hepatitis[4].

Psoriasis is a chronic skin disease which has a physical impact on skin, but it also affects people's feelings and behavior. It affects the way a person sees himself and the way a person is seen by others. Psoriasis is linked with social stigmatization, pain, discomfort, physical disability and psychological stress. Psoriasis affects both sexes equally and can occur at any age although it most commonly appears for the first time between the ages of 15 and 25 years. It affects 2.5% of world's population[5].Several scales exist for measuring the severity of psoriasis. The degree of severity is generally based on the following factors: The proportion of body surface area affected, disease activity,response to previous therapy and the impact of the disease on the person. The psoriasis area severity index (PASI) is the most widely used measurement tool for psoriasis. It combines the assessment of the severity of lesions and the area affected into a single score in the range of 0 (no disease) to 72 (maximal disease).

Psoriasis is a chronic inflammatory disease involving complex abnormalities of epithelial growth and differentiation related to biochemical and immune responses[6]. Based on recent studies evaluating the relationships between psoriasis and systemic diseases, such as cardiovascular disease and metabolic syndrome, psoriasis has been accepted as a systemic inflammatory disease[7]. Moreover, since use of therapeutic drugs, such as T-cell-related immunosuppressants and biologics, interest in the link between psoriasis and infectious diseases has increased. Among infectious diseases, hepatitis B virus (HBV) is the cause of chronic liver disease in 60% to 70% of cases. HBV is an important cause of hepatic cancer. As both psoriasis and viral hepatitis share the common characteristics of chronic inflammation and immune response, it has been hypothesized that HBV may trigger or aggravate psoriasis.

Aim Of The Study:

- to investigate the epidemiologic association between psoriasis and HBV infection

Materials and Methods:

Study type: cross-sectional descriptive study
Study design: Open label, prospective clinical study.
Study period: July 2019 to September 2019
Study sample : 100 attending Dermatology outpatient department

Study place: Dermatology outpatient department at the Vinayaka Missions Hospital, Karaikal, Puducherry

Ethical considerations

Approval from Institutional Ethical Committee of Vinayaka Missions Research foundation, Karaikal was obtained, before starting the clinical study. Written informed consent was obtained in local vernacular language from every patient before enrollment.

Inclusion criteria

- Male or females with diagnosis of psoriasis for at least 12 months prior to screening
- Participants who were more than 15 years old
- Who had written informed consent

Exclusion criteria

- Participants, who were less than 15 years old
- Patients who had refused to sign an informed consent

Methodology

We evaluated the laboratory results of patients with psoriasis . Data on name, age, sex, educational qualification, family history of psoriasis, severity of psoriasis, type of treatment received, type & duration of skin lesions, comorbidities & its treatment details were obtained from the patient. 5 ml of venous blood was drawn from all subjects to determine the

presence of HBsAg.Patients with established diagnosis of HBV or positive HBV surface antigen (HBsAg) were regarded as HBV+.

Statistical Analysis

Data were subjected to statistical analysis using the software SPSS version 13.0 (SPSS Inc, Chicago, USA). Multivariate logistic regression analysis was performed at 95% confidence interval. P values ≤0.05 were considered statistically significant.

RESULTS:

Table 1: Prevalence of HBV infection in the psoriasis group

Sample size	Associated old HBV Infection	Newly positive on HBsAg test	Total HBV infection
100	2	7	9

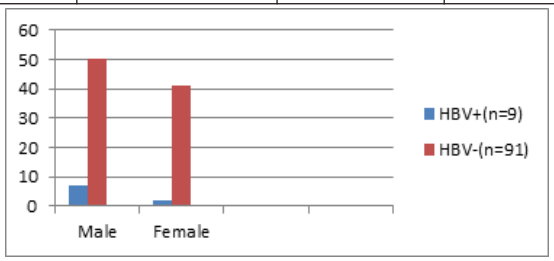

Fig 1:Comparison of patients with psoriasis with or without hepatitis B virus (HBV) infection in relation to sex distribution with p-value 0.080

Among the 100 patients with psoriasis, there was a male predominance (7/9) i.e 77.7% when compared to females (2/9) i.e 22.2%.

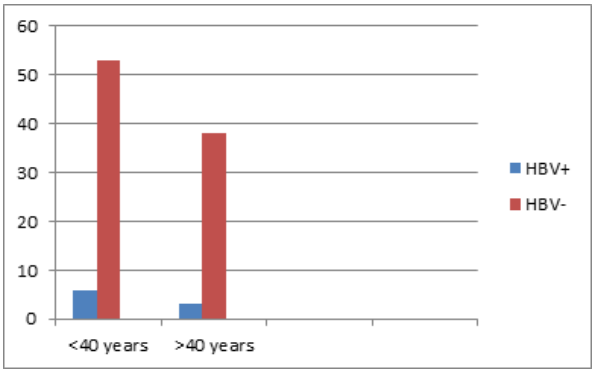

Fig 2:Comparison of patients with psoriasis with or without hepatitis B virus (HBV) infection in relation to age distribution with p-value 0.713

After patients with psoriasis were stratified by age (<40 or≥40 years), younger patients (6/9) i.e 66.6% showed higher prevalence of HBV infection than older patients(3/6) i.e 33.3% .The difference was not significant (p=0.713).

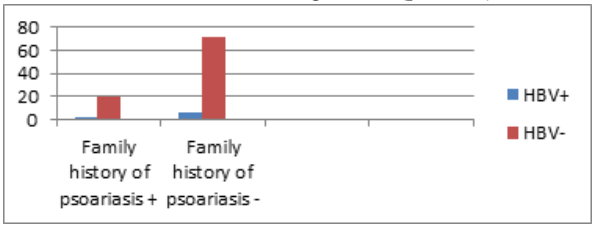

Fig 3:Comparison of patients with psoriasis with or without hepatitis B virus (HBV) infection in relation to family history of psoriasis with p-value 0.663

Patients with negative family history of psoriasis(6/9 66.6%) showed higher prevalence of HBV infection than those with positive family history(3/9 33.3%)

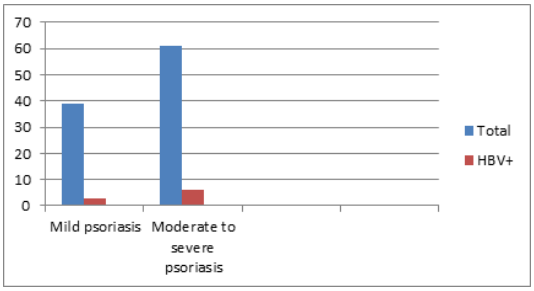

Fig 4:Comparison of patients with psoriasis with or without hepatitis B virus (HBV) infection in relation to severity with *p*-value 0.182

Patients with psoriasis were stratified by severity of psoriasis. Patients with moderate to severe psoriasis (6/61, 9.83%) showed higher prevalence of HBV infection than those with mild psoriasis (3/39, 7.69%).

Out of 100 cases analyzed using multivariate logistic regression analysis, the full model was non-significantly reliable (P > 0.05).

DISCUSSION:

Some previous studies have implied that patients with psoriasis have a higher prevalence of HBV infection than the general population. Guadagnino et al.[6] showed higher risk of HBV infection in patients with chronic psoriasis or eczema in Italy (9.8% vs. 4.3%).Prevalence of HBV was 4% to 18% in the general Italian population, indicating HBV-rich environment. Therefore, they concluded that the virus could easily penetrate through microlesions in skin affected by psoriasis[6].

In another report in Taiwan, patients with psoriasis were reported to have high prevalence of both hepatitis B and C[7]. Because hepatitis B and C are prevalent in the overall population of Taiwan[8], patients with psoriasis should be evaluated for hepatitis, as systemic treatment may increase the detection rate of hepatitis and explain the association between psoriasis and high prevalence of hepatitis.

On the other hand, recent studies in India[9], the United States[10], and Israel[11] revealed that psoriasis was not significantly associated with increased HBV infection . Therefore, susceptibility to HBV infection may be different among patients with varying severity of psoriasis.

This study has few limitations. First, the number of patients with concurrent diagnoses of psoriasis and HBV infection was relatively small. In addition, because the HBV in all patients was inactive, we could not compare severity of psoriasis before and after treatment for HBV infection. In psoriasis treatment, viral epidemiology will become more important as use of immunosuppressant agents and biologics increases in recent days.

Thus, in India, which has a high prevalence of HBV infection, large-scale multicenter studies on the association between psoriasis and HBV infection will be essential for implementing psoriasis treatment strategies.

CONCLUSION:

We assessed several factors in psoriasis patients with or without HBV infection. However, sex, age at onset, family history of psoriasis, and severity of psoriasis showed no association with prevalence of HBV infection. We speculated that patients with psoriasis are susceptible to HBV or that HBV aggravates psoriasis, because both psoriasis and HBV are associated with chronic inflammation. This study to investigate the epidemiologic association between psoriasis and HBV infection did not find a significant prevalence of HBV

infection in patients with psoriasis.

However, a larger population-based study may help to clarify the findings of this study.

Acknowledgement:
We sincerely thank the dean and staffs of Vinayaka Missions Medical College & Hospitals, Karaikal for their immense support in the completion of this study

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