



FEMALES HAVE EARLIER DISEASE ONSET THAN MALES AMONG HLA-CW6 POSITIVE PSORIASIS PATIENTS

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ABSTRACT

Background- Psoriasis is a chronic inflammatory relapsing skin disorder. Environmental and genetic factors play an important role in the development of disease. HLA-Cw6 most strongly associated with disease. There is also a difference in HLA-Cw6 positivity in respect to gender, which affect occurrence of disease in males and females.

Aims & Objectives- This study was aimed to determine the association of HLA-Cw6 positive and negative psoriasis individuals had any significant differences in respect to disease onset among male and female

Materials & Methods- An Institute based Cross sectional study was done in a tertiary care center in eastern India. All patients attending skin OPD were included in the study. Detailed history and blood samples were collected from patients. HLA-Cw6 typing has done by sequence-specific PCR method.

Results- HLA-Cw6 positive female patients had a significantly early age of onset than male patients (p value=0.009334) (20.88 vs. 27.91yr), while HLA-Cw6 negative patients did not show any significant difference of age of onset between male and female (p value= 0.406905)

Conclusion- Although men are more commonly affected than female, HLA-Cw6 positive psoriasis female patients show earlier disease onset. This results show that genetic variations in terms of HLA-Cw6 are reflected in the age of onset among males and females.

KEYWORDS : Psoriasis, HLA-Cw6, PCR, Males, Females.

INTRODUCTION

Psoriasis is a chronic, inflammatory autoimmune skin disease characterized by red, scaly plaques on the extensor surface of elbows, knees, scalp and lower back area.¹ In Indian population prevalence of psoriasis in adults varies from 0.44 to 2.8%. Males are predominantly affected than females. Psoriasis prevalence varies with region to region due to varying environmental and genetic factors.² Mean age of onset also lower in female compared to males.³HLA -Cw6 most strongly associated with psoriasis. This study has done to establish any relationship between HLA -Cw6 and psoriasis in term of gender difference.⁴

AIMS AND OBJECTIVE-

This study was aimed to determine the association of HLA-Cw6 positive and negative psoriasis individuals had any significant differences in respect to disease onset among male and female.

MATERIALS AND METHODS-

A Cross sectional study was conducted in a tertiary care centre in eastern India. All patients attending Dermatology outpatient Department who have suspected case psoriasis were selected as study population. Clinical history and blood samples were taken from this study population. Patients who had exclusive palmoplantar psoriasis were excluded from study. Total 100 patients were selected. Study period was one year period from 2014 to 2015. HLA-Cw6 typing was done by PCR and result analysis was done by Chi square test using R statistical software.

RESULTS -

Out of 100 psoriasis patients, 39 (39%) were females and 61 (61%) males (Figure-1). Out of 39 females, 26 were HLA Cw6 positive and 13 were HLA-Cw6 negative. Out of 61 males 35 were HLA-Cw6 positive and 26 were HLA-Cw6 negative. Mean age of onset in male and female patients with respect to HLA-Cw6 is depicted in Table -1 and Figure-2.

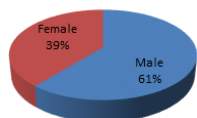


Figure -1 Pie chart depicting sex distribution (N= 100)

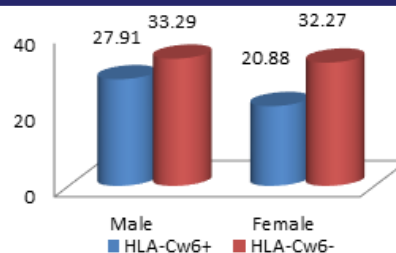


Figure-2 Bar diagram depicting age of onset in male and female patients with respect to HLA-Cw6 distribution

Table 1-Mean age of Onset in Male and Female patients with respect to HLA-Cw6 allele presence (t- test)

	Male		Female		p-value
	Mean Age of Onset	No. Of patients	Mean Age of Onset	No. Of patients	
HLA Cw6 +	27.91	35	20.88	26	0.009334*
HLA Cw6-	33.29	26	32.27	13	0.406905

DISCUSSION-

In our study, we found psoriasis is more common in males compared to female. A study done in India on north population by Bedi showed male are more commonly affected than female and similar result found by kaur et al.^{5,6} But a study done in Sweden by Lotus Mallbris et al. showed females are more commonly affected than males.⁷ In our study HLA -Cw6 positive female patients had a significantly early age of onset than male patients (p value=0.009334); while HLA-Cw6 negative patients did not show any significant difference of age of onset between male and female patients(p value=0.406905) . A study done by Xing et al. and Gudjonsson et al showed similar results.^{8,9}

CONCLUSIONS-

Although men are more commonly affected than female, HLA-Cw6 positive psoriasis female patients show earlier disease onset. This results show that genetic variations in terms of HLA-Cw6 are reflected in the age of onset among males and females. Some factors in female patients can interact with HLA-Cw6 that can lead to this variation. These factors still unknown and further studies are needed to determine them.

REFERENCES:

- [1] Parisi, R., Iskandar, I., Kontopantelis, E., Augustin, M., Griffiths, C., Ashcroft, D. M., & Global Psoriasis Atlas (2020). National, regional, and worldwide epidemiology of psoriasis: systematic analysis and modelling study. *BMJ (Clinical research ed.)*, 369, m1590.
- [2] Dogra, S., & Mahajan, R. (2016). Psoriasis: Epidemiology, clinical features, comorbidities, and clinical scoring. *Indian dermatology online journal*, 7(6), 471–480.
- [3] Dogra, S., & Yadav, S. (2010). Psoriasis in India: prevalence and pattern. *Indian journal of dermatology, venereology and leprology*, 76(6), 595–601.
- [4] Chen, L., & Tsai, T. F. (2018). HLA-Cw6 and psoriasis. *The British journal of dermatology*, 178(4), 854–862.
- [5] Bedi, T. R. (1977). Psoriasis in north India. *Dermatology*, 155(5), 310-314.
- [6] Kaur, I., Handa, S., & Kumar, B. (1997). Natural history of psoriasis: a study from the Indian subcontinent. *The Journal of dermatology*, 24(4), 230–234.
- [7] Mallbris, L., Larsson, P., Bergqvist, S., Vingård, E., Granath, F., & Ståhle, M. (2005). Psoriasis phenotype at disease onset: clinical characterization of 400 adult cases. *The Journal of investigative dermatology*, 124(3), 499–504.
- [8] Fan, X., Yang, S., Sun, L. D., Liang, Y. H., Gao, M., Zhang, K. Y., ... & Zhang, X. (2007). Comparison of clinical features of HLA-Cw* 0602-positive and-negative psoriasis patients in a Han Chinese population. *Acta dermato-venereologica*, 87(4), 47-52.
- [9] Guðjónsson, J. E., Valdimarsson, H., Káráson, A., Antonsdóttir, A. A., Rúnarsdóttir, E. H., Gulcher, J. R., & Stefánsson, K. (2002). HLA-Cw6-positive and HLA-Cw6-negative patients with psoriasis vulgaris have distinct clinical features. *Journal of Investigative Dermatology*, 118(2), 362-365.