

# The Relationship between HLA-B27, HLA-CW06, HLA-DR7 and Psoriatic Arthritis in Vietnamese Patients: Disease Progression and Therapeutic Burden

Vinh Ngo Minh<sup>1</sup>, Van Bui Thi<sup>2</sup>, Tro Chau Van<sup>1</sup>, Trai Nguyen Ngoc<sup>1</sup>, Anh Tran Ngoc<sup>1</sup>, Em Dang Van<sup>3</sup>, Marco Gandolfi<sup>4</sup>, Francesca Satolli<sup>4</sup>, Claudio Feliciani<sup>4</sup>, Michael Tirant<sup>5,6</sup>, Aleksandra Vojvodic<sup>7</sup>, Torello Lotti<sup>5</sup>

<sup>1</sup>Pham Ngoc Thach University of Medicine, HCMC, Vietnam; <sup>2</sup>Military Central Hospital, Hanoi City, Vietnam; <sup>3</sup>Institute of Clinical Medical & Pharmaceutical Sciences, Hanoi City, Vietnam; <sup>4</sup>Unit of Dermatology, University of Parma, Parma, Italy; <sup>5</sup>University of Rome G. Marconi, Rome, Italy; <sup>6</sup>Psoriasis Eczema Clinic, Melbourne, Australia; <sup>7</sup>Department of Dermatology and Venereology, Military Medical Academy of Belgrade, Belgrade, Serbia

## Abstract

**Citation:** Ngo Minh V, Bui Thi V, Chau Van T, Nguyen Ngoc T, Tran Ngoc A, Dang Van E, Gandolfi M, Satolli F, Feliciani C, Tirant M, Vojvodic A, Lotti T. The Relationship Between HLA-B27, HLA-CW06, HLA-DR7 And Psoriatic Arthritis (PsA) In Vietnamese Patients. Disease Progression and Therapeutic Burden. Open Access Maced J Med Sci. <https://doi.org/10.3889/oamjms.2019.064>

**Keywords:** Psoriasis; Psoriatic arthritis; HLA-B27

**\*Correspondence:** Marco Gandolfi. Unit of Dermatology, University of Parma, Parma, Italy. E-mail: [marco.gandolfi5@gmail.com](mailto:marco.gandolfi5@gmail.com)

**Received:** 02-Jan-2019; **Revised:** 16-Jan-2019;

**Accepted:** 17-Jan-2019; **Online first:** 27-Jan-2019

**Copyright:** © 2019 Vinh Ngo Minh, Van Bui Thi, Tro Chau Van, Trai Nguyen Ngoc, Anh Tran Ngoc, Em Dang Van, Marco Gandolfi, Francesca Satolli, Claudio Feliciani, Michael Tirant, Aleksandra Vojvodic, Torello Lotti. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)

**Funding:** This research did not receive any financial support

**Competing Interests:** The authors have declared that no competing interests exist

We conducted a prospective, cross-sectional study at Ho Chi Minh City Hospital of Dermato Venereology from January 2016 to March 2017 in 40 psoriatic arthritis (PsA) patients to evaluate the disease progression and therapeutic burden about the HLA patterns. Based upon our results, PsA with HLA-B27 (+) had a threat of severe arthritis. PsA with HLA-Cw06 (+) had a higher risk of earlier onset and shorter duration for plaque psoriasis to transform into PsA. HLA-DR7 (+) in PsA delayed the time for conversion from plaque psoriasis into PsA. These findings are quite similar to other studies in the literature.

## Dear Editor,

We conducted a prospective, cross-sectional study at Ho Chi Minh City Hospital of Dermato Venereology from January 2016 to March 2017 in 40 PsA patients, 37 plaque psoriasis patients, and 33 healthy people. They were tested HLA-B27, HLA-Cw06, HLA-DR7 by Sequence Specific Primer-Polymerase Chain Reaction (SSP-PCR) technique.

The rate of HLA-B27 in PsA was 32.5%, in plaque psoriasis was 1.92%, in the healthy group was 9.09%. The rate of HLA-Cw06 in PsA was 7.5%, in

plaque psoriasis was 18.92%, in healthy group was 3.03%. The rate of HLA-DR7 in PsA was 32.5%, in plaque psoriasis was 27.30%, in healthy group was 24.24%. HLA-B27 (+) patients had a high risk of PsA with RR = 1.6. PsA with HLA-B27 (+) had a threat of severe arthritis. PsA with HLA-Cw06 (+) had a higher risk of earlier onset and shorter duration for plaque psoriasis to transform into PsA. HLA-DR7 (+) in PsA delayed the time for conversion from plaque psoriasis into PsA.

Many types of research show the relationship between HLA-B27, HLA-Cw06, and PsA. HLA-B27 took high percentage in PsA and related to early onset of arthritis, spondylitis (spinal joint, sacroiliac joint),

distal interphalangeal joint arthritis and uveitis, affecting more frequently males and with poor prognosis; HLA-Cw06 involved the early onset of skin psoriasis, late arthritis, extensive cutaneous lesions, often happened in patients which positive family history for psoriasis. HLA-DR7 involved the progress of PsA. According to many scientists, HLA-DR7 and B22 are protective factors.

Alenius et al., [1] researched clinical signs and HLA in 88 PsA patients in Switzerland in which 25.7% of patients were HLA-B27 (+). Danafa et al., [2] researched the relationship between HLA and PsA in 158 PsA patients in which 15.8% patients were HLA-B27 (+).

Fitzgerald et al., [3] in 2015 showed that the rate of HLA-Cw06 (+) was 28.5%. Another research of Danafa et al., [2] showed the relationship between HLA and PsA in 158 PsA patients concluded that 12% of patients had HLA-Cw06 (+) and demonstrated the relationship between HLA-B27 and PsA.

Alenius and his associates found that healthy people with HLA-B27 (+) had a greater risk of PsA ( $p = 0.017$ ).

This is the first study that analyses the HLA pattern of psoriatic patients in Vietnam and correlates with disease progression and therapeutic burden.

## References

1. Alenius GM, Jidell E, Nordmark L, Dahlqvist SR. Disease manifestations and HLA antigens in psoriatic arthritis in northern Sweden. *Clinical Rheumatology*. 2002; 21(5):357-62. <https://doi.org/10.1007/s100670200097> PMID:12223981
2. Gladman DD, Farewell VT. The role of HLA antigens as indicators of disease progression in psoriatic arthritis. *Arthritis & Rheumatism: Official Journal of the American College of Rheumatology*. 1995; 38(6):845-50. <https://doi.org/10.1002/art.1780380619>
3. FitzGerald O, Haroon M, Giles JT, Winchester R. Concepts of pathogenesis in psoriatic arthritis: genotype determines clinical phenotype. *Arthritis research & therapy*. 2015; 17(1):115. <https://doi.org/10.1186/s13075-015-0640-3> PMID:25948071 PMCid:PMC4422545