LISBON 2018

11th International Congress on Autoimmunity

Lisbon, Portugal, 16-20 May 2018

Program Book

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INDUSTRY SUPPORTED SESSION 2

Not included in main CME/CPD credit

Please refer to page 187 of the book for full information

12:30 - 14:00 **Exhibition Ha**

LUNCH BREAK, EXHIBITION, POSTERS AND SHORT E-POSTERS DISCUSSIONS

Correlations between HLA-Cw6 and IL-23 with psoriasis vulgaris

Eryati Darwin, Sri Lestari Kuncorowati, and Dwitya Elvira
Faculty of Medicine, Andalas University, Padang-Indonesia
May, 2018

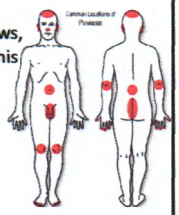
Faculty Disclosure

√	No, nothing to disclose
	Yes, please specify:

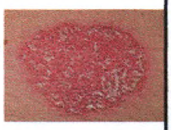
Company Name	Honoraria/ Expenses	Consulting/ Advisory Board	Funded Research	Royalties/ Patent	Stock Options	Ownership/ Equity Position	Employee	Other (please specify)
Example: company XYZ	x		x		x			

Introduction

- Psoriasis is a complex, chronic, multifactorial, inflammatory disease of unknown etiology
- bilaterally symmetric, non-pruritic lesion of elbows, knees, umbilicus, lower back, scalp and glans penis
- affects 1-3% of population, all ages, equal sex
- Subtype: plaque, guttate, pustular, and erythrodermic
- Common type: plaque psoriasis (90%)→ psoriasis vulgaris

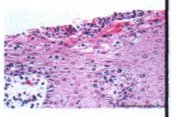


Clinical features

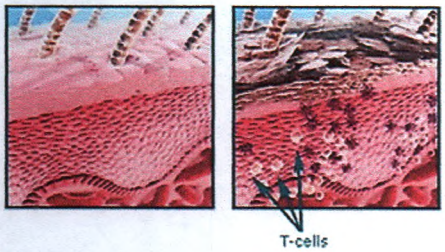


- Well demarcated erythematous plaques covered by fine, loosely adherent, silvery-white scales
- Auspitz sign: bleeding when scale is lifted from plaque
- Koebner phenomenon: new lesions at site of trauma

Histologic Appearance

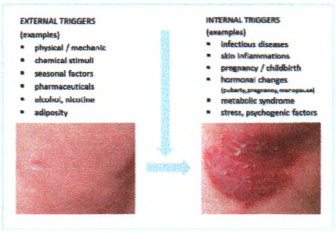


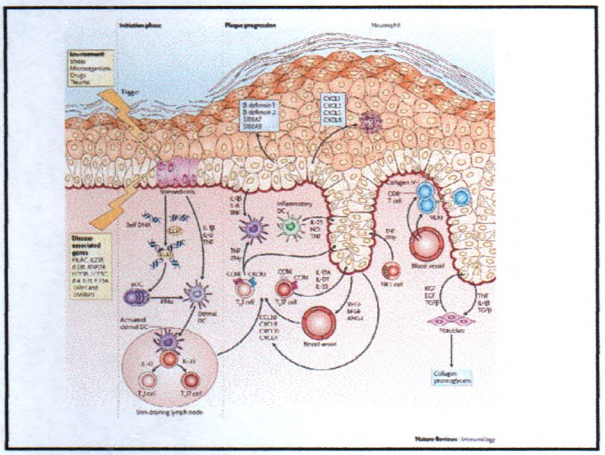
- Hyperproliferation of keratinocytes with parakeratosis
- elongation of rete ridges
- thin/no granular cell layer
- microabscesses
- Increased mitotic figures above basal layer
- increased angiogenesis
- infiltrate of T lymphocytes, macrophages , neutrophils and dendritic cells



Pathogenesis

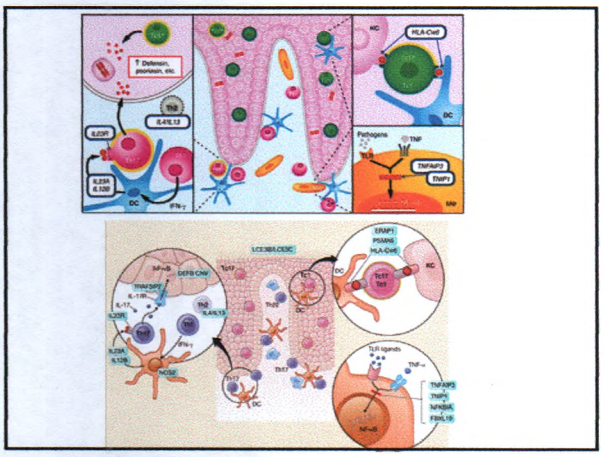
- not yet fully understood
- autoimmune basis, mediated by the Th1 lymphocytes
- chronic systemic inflammatory disorder resulting from the combination of predisposing genetic factors and environmental triggers





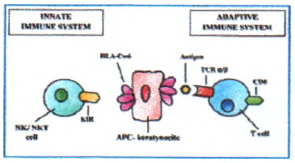
Model integrating the genetics and immunology of psoriasis

- Genetic -Immune response→ Psoriasis
- Genetic-Infection-immune response→ Psoriasis
- Stress-Immune response→ Ppsoriasis



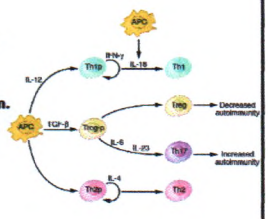
HLA-Cw6

- The MHC region on chromosome 6 contain a risk allele for psoriasis most notably HLA Cw6
- HLA-Cw6 expressed on APCs
  - trigger specific immune responses by presentation of processed antigen to the TCR of CD8+ T cells.
  - trigger innate immune response by interaction of HLA-Cw6 NK and NKT cells.



IL-23

- **IL-23 was discovered in 2000 by Oppmann and co-workers**
- **Since its, IL-23 has been linked to the pathogenesis of autoimmune inflammation.**
- **IL-23 expressed by activated monocytes, macrophages, dendritic cells , T cells, B cells, and endothelial cells**
- **mediate the epidermal hyperplasia, keratinocyte and inflammation**

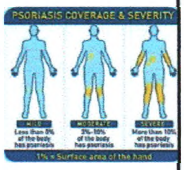


Aim of Study

- To determine the role of IL-23 in psoriasis vulgaris we studied its correlation with HLA-Cw6 in psoriasis vulgaris

Methods

- Cross-sectional study
- 30 unrelated patients with psoriasis vulgaris and 30 non-psoriatic from Dermatology and Venereology Departement of M.Djamil Hospital outpatients
- Dermatological examination with psoriasis severity assessment using PASI score
- IL-23 by using ELISA methods
- HLA-Cw6 allele by PCR-SSP method.
- Data were analyzed statistically
- Approved by Ethics Committee on Health Research at Medical Faculty, Andalas University



Results

Table 1.1: Characteristic of Psoriasis patients and control group

Characteristics	Psoriasis (n=30)	Kontrol (n=30)	%	p
Age				
< 40	14	15	48,3	1,000
≥ 40	16	15	51,7	
Gender				
Male	16	16	53,3	1,000
Female	14	14	46,7	

Kolmogorov-Smirnof: Normal distribution

Psoriasis may begin at any age, It is most likely to appear between the ages of 15 and 30 years.

Table 1: Severity, Onset and Duration of Disease of Psoriasis Vulgaris Patients

Characteristic	Psoriasis Vulgaris (n=30)	
	N	%
Severity (PASI)		
Mild (PASI <8)	23	76,7
Moderate (PASI >8 to < 12)	5	16,7
Severe (PASI>12)	2	6,6
Onset of Disease		
< 40 years	23	76.7
> 40 years	7	23,3
Duration of disease		
< 5 years	14	46,7
> 5 years to < 15 years	14	50
>15 years	1	3,3

Possession of certain HLA Class I antigens, particularly HLA-Cw6, is associated with an earlier age of onset and with a positive family history

Table 3: Expression of HLA-Cw6v alele in psoriasis and control group

Groups	HLA Cw-6				p
	Positive		Negative		
	N	%	N	%	
Psoriasis (n=30)	6	20	24	80	0,024
Control (n=30)	0	0	30	100	

- HLA Cw-6 found in 20% of psoriatic patients
  No correlation with duration and severity of disease
- Ikaheimo et al, 1996: Cw6-positive patients have an earlier disease onset
- Guðjónsson, et al.,2002: Patients who are Cw6 positive had a lower age at onset
- Chen and Tsai, 2017: The worldwide frequency of the HLA-Cw6 allele varies greatly, with it being generally higher in white people than in Asians.
- Chen and Tsai, 2017: HLA-Cw6 has been found to be associated with guttate psoriasis

Table 4: The level of IL-23 in psoriasis and control group

Groups	IL-23 (pg/ml) (Mean±SD)	p
Psoriasis	31,2088±10,5809	0,013
Control	25,5839±5,3964	

- Fitch et al.,2007: Several recent studies suggest that psoriasis is a Th17 cell–mediated disease driven by IL-23

Table 5: Correlation between HLA Cw-6 with IL-23 in Psorisis Vulgaris

HLA-Cw-6 in Psoriasis	IL-23 (pg/ml) (Mean±SD)	p
Positive (n=6)	32,2126±11,2846	0,791
Negative (n=24)	30,9033±10,6036	

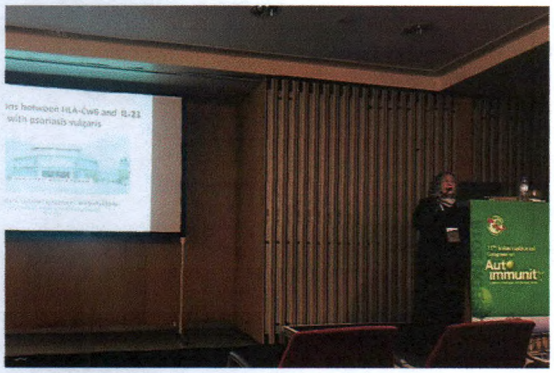
IL-23 in Severe Psoriatic patients (PASI >12) :- 50,43
- 51,46

HLA-Cw6, is associated with an earlier age of onset and with a positive family history
Burlando et al, 2016: HLA-Cw6 allele is associated with a faster and better clinical response rate to human monoclonal antibody directed against interleukin 12 and interleukin 23

- Psoriasis as a consequence of dysregulated immunity that lead inflammation
- HLA Cw-6 is a diseases-associated gene, which together with other factors stimulates inflammation
- IL-23 as pro-inflammatory cytokine, play a crucial role in the pathogenesis of psoriasis
- IL-23 activation stimulates production of IL-17 and IL-22, which directly affect skin inflammation, may promote keratinocyte proliferation and differentiation

Conclusion

IL-23 is associated with psoriasis vulgaris, and HLA-Cw6 may play a role in the occurrence of psoriasis inflammation through IL-23.



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Autoimmunity

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CERTIFICATE

OF

ORAL PRESENTATION

This is to certify that

Prof. Dr. Eryati Darwin

presented the abstract entitled

CORRELATIONS BETWEEN HLA-Cw6 AND IL-23 IN PSORIASIS VULGARIS

as an oral presentation at the

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Y. Shoenfeld

Yehuda Shoenfeld, MD, FRCP, MaACR
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