

Síndrome de Behcet

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Contenido



Definición



Historia



Epidemiología



Fisiopatología



Manifestaciones clínicas



Diagnóstico



Tratamiento

Definición

La enfermedad de Behcet es un desorden inflamatorio multisistémico crónico

- Enfermedad vs. síndrome
- Etiología desconocida

Úlceras orales/
genitales

Lesiones en piel

Lesiones oculares

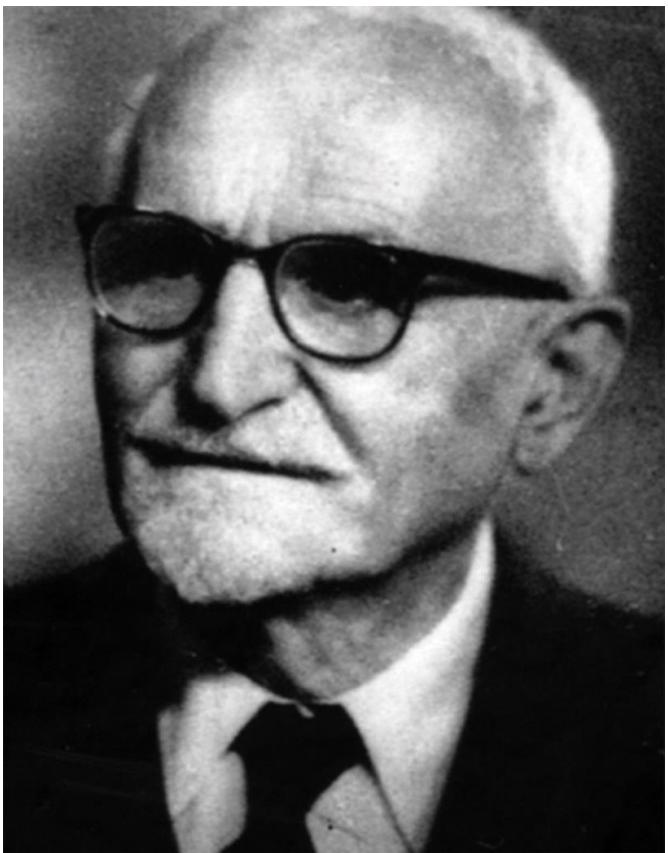
Úlceras
gastrointestinales

Lesiones
vasculares

SNC

Historia





Benediktos Adamantiades

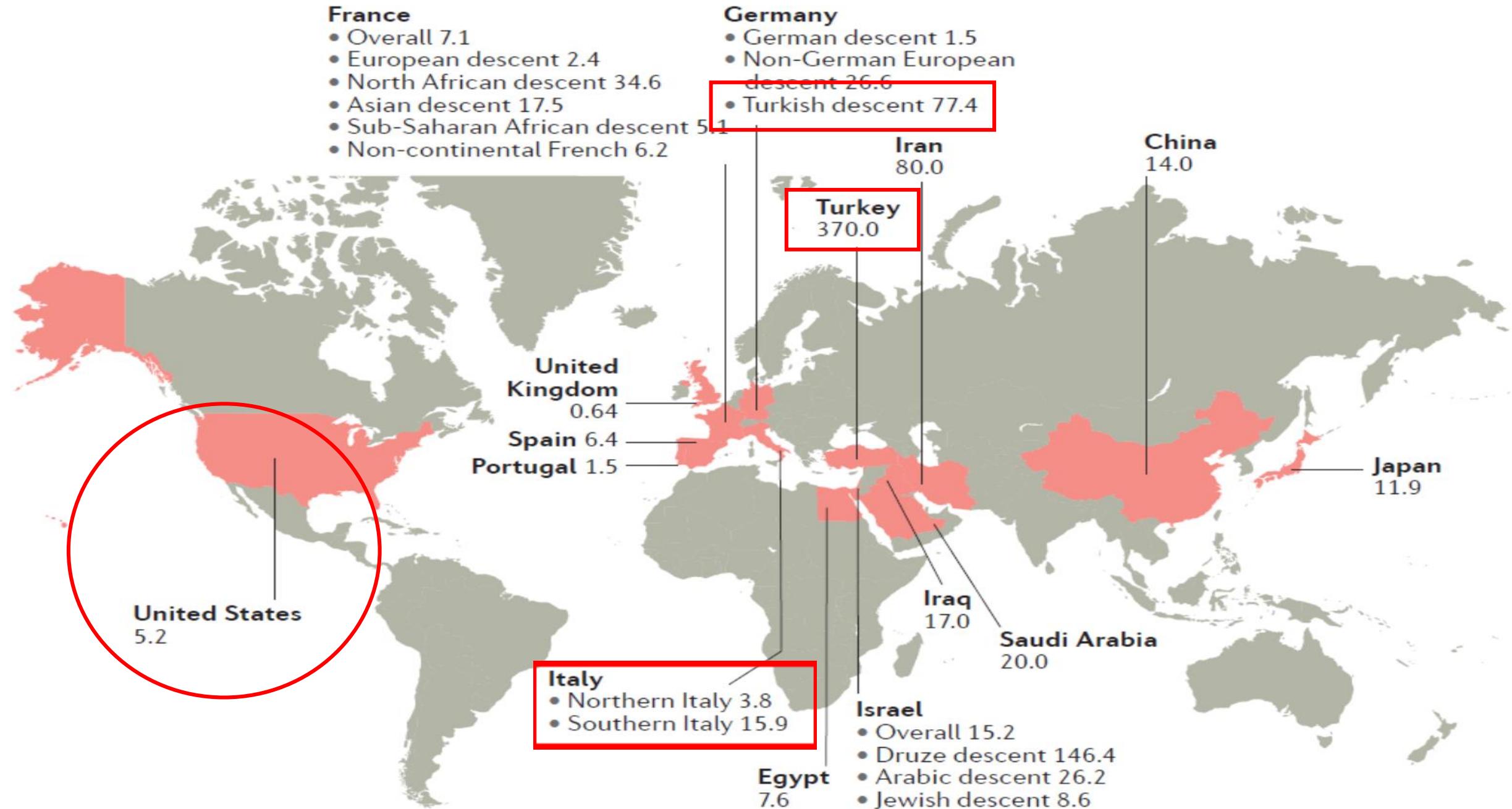


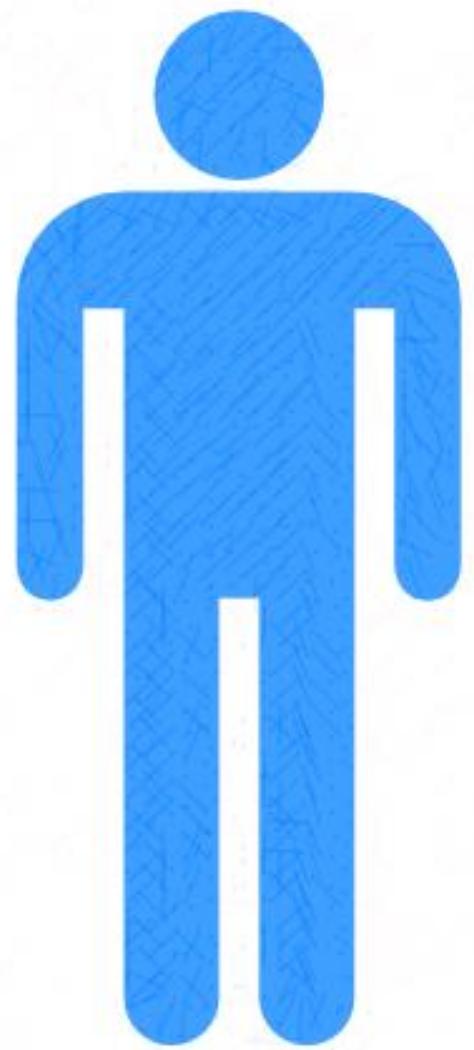
Hulusi Behcet

Epidemiología







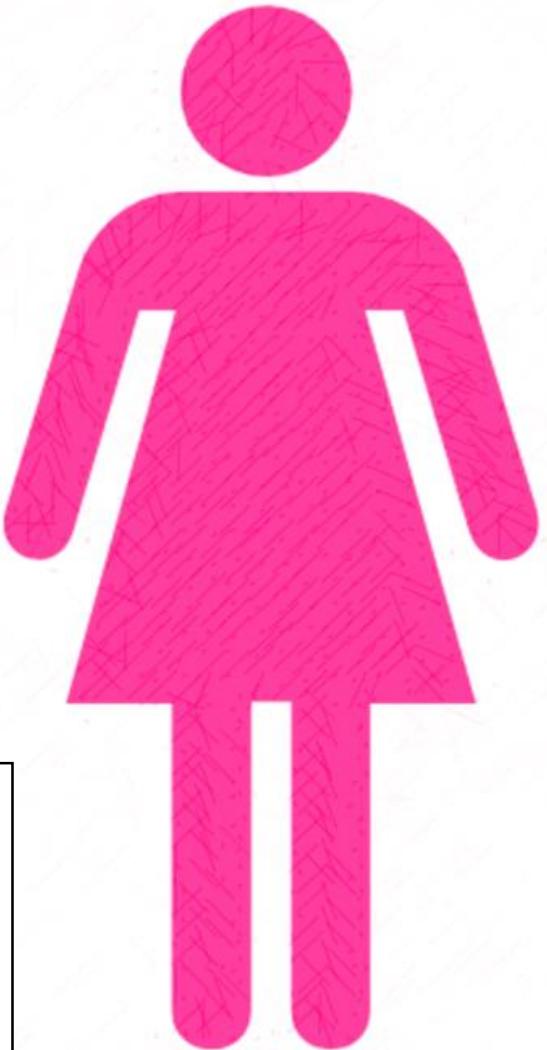


H = M

20-30
años



<200 casos
(2012)





Fisiopatología

Autoinflamación vs. autoinmunidad

Autoinflammation

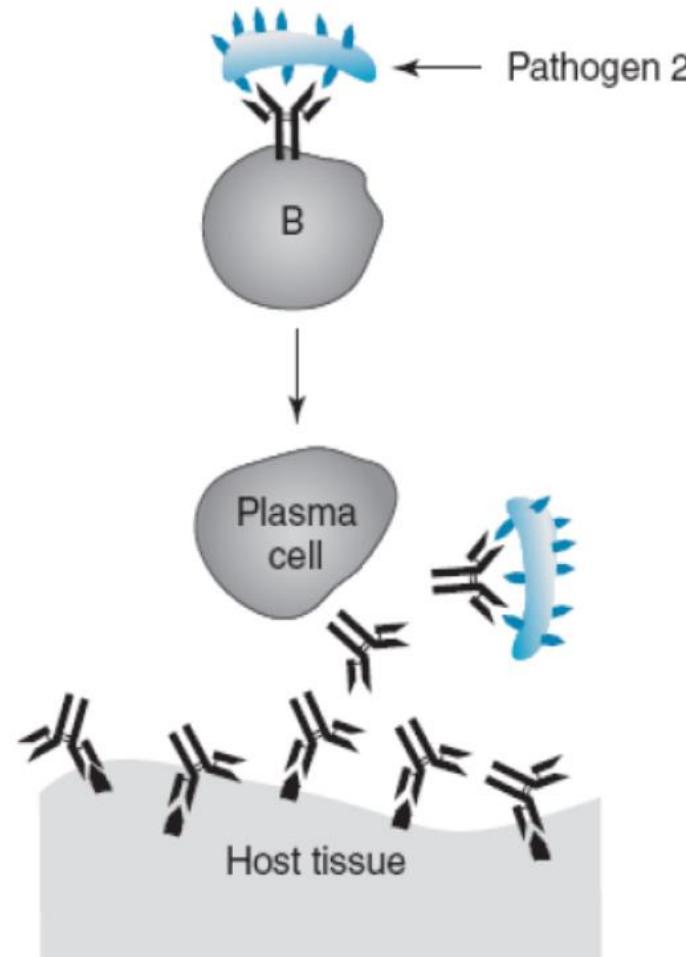
Autoimmunity

INNATE immune system	Immune dysregulation	ADAPTIVE immune system
Monocytes, macrophages, neutrophils	Predominant cell types	T cells, B cells
IL-1, TNF, IFN $\alpha\beta$, IL-12, IL-23, (IL-17), IL-18	Cytokine targets used therapeutically	IFN γ , IL-4, (IL-17), IL-6
Neutrophil- and macrophage-mediated organ damage	Pathogenesis of organ damage	Autoantibody- or autoantigen-specific T cell–mediated organ damage
IL-1-mediated monogenic autoinflammatory diseases	Disease examples	Thyroiditis, rheumatoid arthritis, SLE, ALPS

Annu. Rev. Med. 2014. 65:223–44

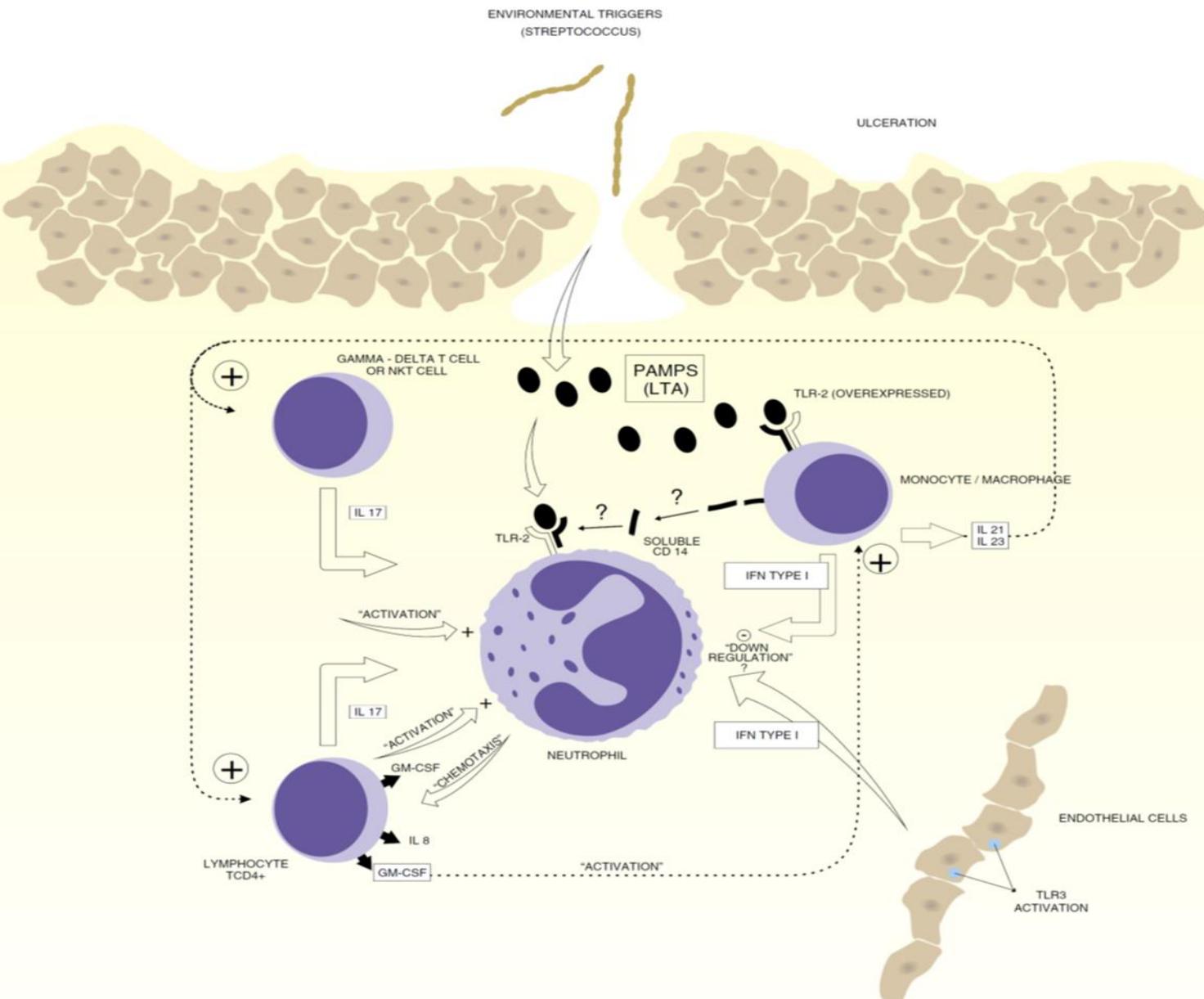
No hay elementos suficientes para autoinmunidad

- HSP – mímica molecular
- Anticuerpos contra las proteínas de choque térmico de *Streptococcus spp.* se han mostrado recientemente en Behçet



Tomado de clase:
"mecanismos de
autoinmunidad". Módulo
inmunología

Elementos a favor de autoinflamación



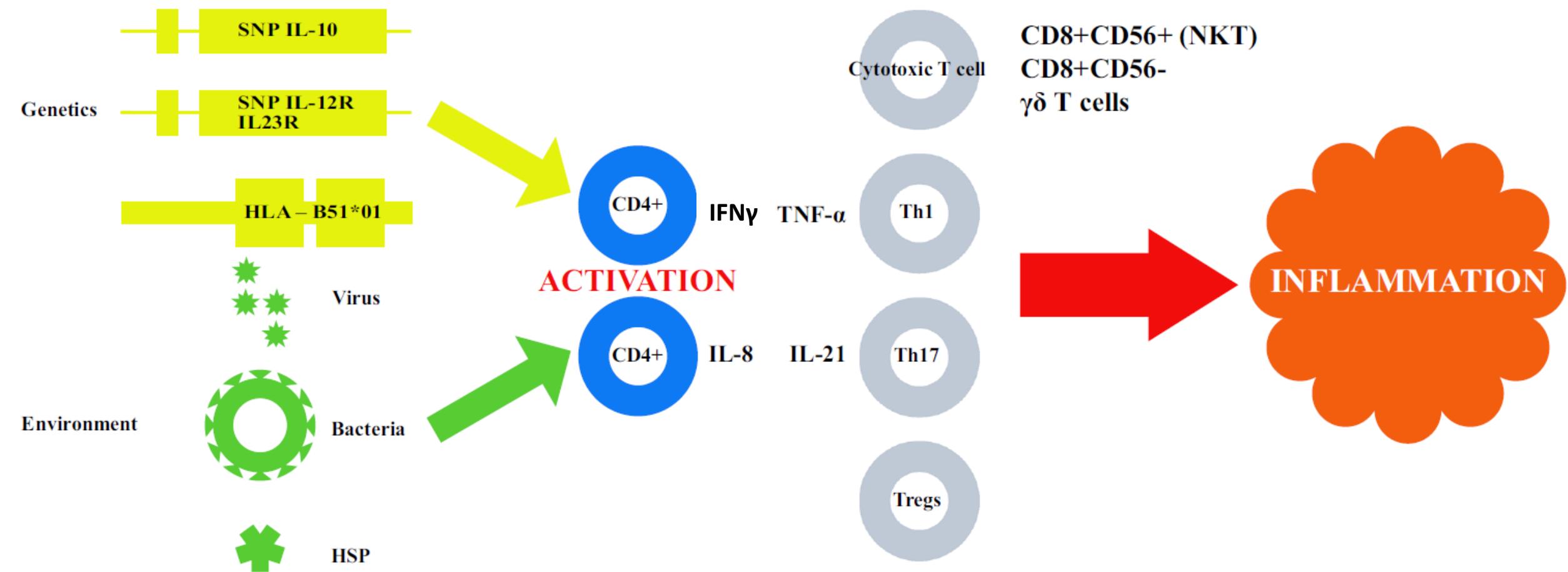
IL-1 β incrementado

Predominio de Respuesta Inmune Innata por mutaciones en TLR

Mayor presencia de neutrófilos en lesiones

Similitudes con MEFV

La confluencia de diversos factores generan inflamación



HLA-B51/B5 and the Risk of Behçet's Disease: A Systematic Review and Meta-Analysis of

Table 2. Pooled estimates for overall and subgroup meta-analyses for HLA-B51/B5 carriage and its association with BD risk*

Subgroups	Populations, no.	Pooled prevalence for HLA-B51/B5†			<i>I</i> ² (%)	<i>P</i> _{het}	<i>P</i> _{cov}
		BD cases (95% CI)	Controls (95% CI)	OR (95% CI)			
Overall	80	57.2 (53.4–60.9)	18.1 (16.1–20.3)	5.78 (5.00–6.67)	60.6	0.0001	0.31
By geographic area							
Eastern Asia	25	55.0 (49.8–60.1)	19.6 (16.0–23.7)	5.18 (4.15–6.47)	52.2	0.001	
Middle East/North Africa	27	63.5 (58.8–68.0)	21.7 (18.2–25.7)	6.25 (4.87–8.03)	70.4	0.0001	
Southern Europe	15	60.6 (51.9–68.7)	16.8 (13.3–21.0)	7.20 (4.89–10.62)	57.2	0.003	

Table 2. Pooled estimates for overall and subgroup meta-analyses for HLA-B51/B5 carriage and its association with BD risk***Pooled prevalence for HLA-B51/B5†**

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significance of corresponding covariates in the pooled genetic effect (calculated by random-effects meta-regression).

† Pooled prevalence values were calculated using random-effects normal-logistic models.

‡ Two studies combined in the North American group had distinctly different ethnicities.

Conclusion. The strength of the association between BD and HLA-B51/B5, and its consistency across populations of various ethnicities, lends further support to this allele being a primary and causal risk determinant for BD. Variations according to sex support an interaction of this allele with BD characteristics.

Association of Major Histocompatibility Class I Chain-Related Polymorphisms with Behcet Disease

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¹ Department of Oral and Maxillofacial Medicine, Yokohama, Japan; ² Department of Internal Medicine, Istanbul University Graduate School of Medical Sciences, Istanbul, Turkey; ³ Department of Internal Medicine, Istanbul University Faculty of Medicine, Istanbul, Turkey; ⁴ Department of Ophthalmology, Istanbul University Faculty of Medicine, Istanbul, Turkey

Purpose: Behcet's disease (BD) is known to affect different ethnic groups. Recently, the major histocompatibility complex (MHC) region near the *HLA-B* gene, has been proposed to contribute to BD in different ethnic groups. To compare the relative contribution of MHC genes in different ethnic groups, we studied *MICA* polymorphism.

Methods: Thirty-three Turkish BD patients and 100 healthy controls were genotyped for *MICA* polymorphisms in the extracellular domains.

Results: The phenotype frequencies of *MICA**009 were significantly higher in controls (29.2%) ($P = 0.000015$). *MICA**004 was more frequent in BD patients (81.8%) than in controls (29.2%) ($P = 0.0000001$). There was no association with the *HLA-B*51*. To assess the confounding effect of other MHC genes, we performed a haplotype analysis that showed that BD was distinct from controls.

Conclusion: Our results indicate that there is no significant association between *MICA**009 and BD. However, we suggest that *MICA**009 likely plays a role in BD pathogenesis.

Key Words: Behcet's disease, *HLA-B*, *MICA*, polymorphism.

E.H. Hughes
R.W.M. Collins
E. Kondeatis
G.R. Wallace
E.M. Graham
R.W. Vaughan
M.R. Stanford

Key words:
Behcet's disease; HLA-B*51; *MICA*; *MICB*; NKG2D; polymorphism

Acknowledgments:

This work was supported by grants from the British Eye Research Foundation.

Associations of major histocompatibility

con-

poly-

Cau-

Allelic Diversity and Affinity Variants of *MICA* and *MICB* Are Imbalanced in Spanish Patients with Behcet Disease

I. Muñoz-Saá*, A. Cambra*, L. Pallarés†, G. Espinosa‡, A. Juan§, F. Pujalte*
J. Milà* Et M. R. Julià*

Abstract

The aetiology of Behcet's disease (BD) is still unknown. Environmental factors are involved. HLA-B*51 is a risk marker and some *MICA* alleles have also been implicated. Human natural killer (NK) lymphocytes have been suggested as responsible for the pathogenesis of BD through *MICA* expression on target cells. *MICA* alleles were typed by polymerase chain reaction (PCR) using primers specific for each allele. In total, 165 healthy Spanish controls and 41 BD patients were analysed. The most frequent *MICA* allele in the control group was *MICA**004 (44.1%), followed by *MICA**009 (29.0%) and *MICA**008 (12.1%). In the BD group, *MICA**004 was the predominant allele (51.2%), followed by *MICA**009 (22.6%) and *MICA**008 (10.7%). *MICA**004 was significantly more frequent in BD patients than in controls (OR = 3.75; $p = 0.0012$). *MICA**009 was significantly more frequent in controls than in BD patients (OR = 0.27; $p = 0.0012$). *MICA**008 was significantly more frequent in controls than in BD patients (OR = 0.27; $p = 0.0012$). *MICA**011 was significantly more frequent in BD patients than in controls (OR = 2.12; $p = 0.0012$). *MICA**010 was significantly more frequent in controls than in BD patients (OR = 0.45; $p = 0.0012$). *MICA**008 and *MICA**010 were significantly more frequent in BD patients than in controls (OR = 2.12; $p = 0.0012$).

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Keywords:

Behcet's disease; HLA-B*51; *MICA*; *MICB*; NKG2D; polymorphism

Abstract

The aetiology of Behcet's disease (BD) is still unknown. Environmental factors are involved. HLA-B*51 is a risk marker and some *MICA* alleles have also been implicated. Human natural killer (NK) lymphocytes have been suggested as responsible for the pathogenesis of BD through *MICA* expression on target cells. *MICA* alleles were typed by polymerase chain reaction (PCR) using primers specific for each allele. In total, 165 healthy Spanish controls and 41 BD patients were analysed. The most frequent *MICA* allele in the control group was *MICA**004 (44.1%), followed by *MICA**009 (29.0%) and *MICA**008 (12.1%). In the BD group, *MICA**004 was the predominant allele (51.2%), followed by *MICA**009 (22.6%) and *MICA**008 (10.7%). *MICA**004 was significantly more frequent in BD patients than in controls (OR = 3.75; $p = 0.0012$). *MICA**009 was significantly more frequent in controls than in BD patients (OR = 0.27; $p = 0.0012$). *MICA**008 was significantly more frequent in controls than in BD patients (OR = 0.27; $p = 0.0012$). *MICA**011 was significantly more frequent in BD patients than in controls (OR = 2.12; $p = 0.0012$). *MICA**010 was significantly more frequent in controls than in BD patients (OR = 0.45; $p = 0.0012$). *MICA**008 and *MICA**010 were significantly more frequent in BD patients than in controls (OR = 2.12; $p = 0.0012$).

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Original Article

The HLA-B*51 Allele Is Strongly Associated With Behcet Disease in an Argentinean Population

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HLA-B51 antigen
Case-control studies
Latin America

ABSTRACT

Objective: To assess the association between the HLA-B*51 allele and Behcet Disease (BD) in Argentinean patients.

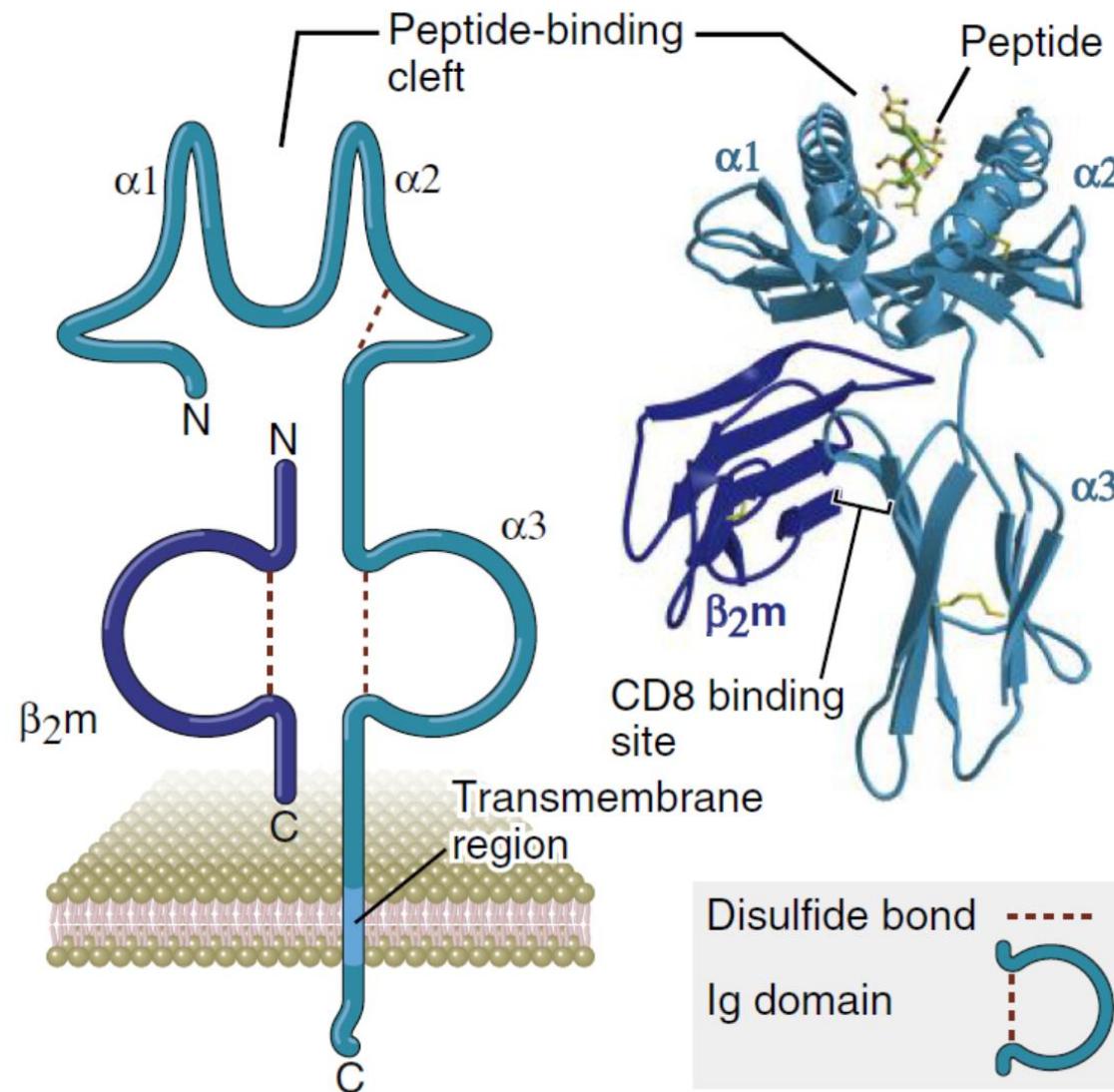
Methods: We enrolled 34 consecutive Argentinean patients with definitive diagnosis of BD between October 2016 and March 2017. None of the patients had the HLA-B*51 allele determined at study entry. Unrelated controls ($n=240$) were randomly obtained from the national cadaveric donor database. Demographic and clinical features of the patients were recorded by attending physicians through a questionnaire.

Results: Mean age of cases was 42 years old. Nineteen (55.8%) were male, and the mean age at diagnosis was 35 years old; twenty (58.8%) were Mestizos, 8 (23.5%) were Caucasian, and 6 (17.6%) were Amerindians. Thirteen (38.2%) of 34 cases were HLA-B*51 allele positive; 11 were heterozygous and 2 homozygous for the allele. Thirty-four (14.2%) of 240 controls were positive for the HLA-B*51 allele. The association between BD and HLA-B*51 allele was greater than that of control group (OR = 3.75; $p = 0.0012$).

Conclusions: The HLA-B*51 allele is strongly associated with BD in Argentinean patients. Our finding is consistent with previous studies indicating that the HLA-B*51 allele is an important susceptibility gene in BD regardless the geographical region and ethnicity.

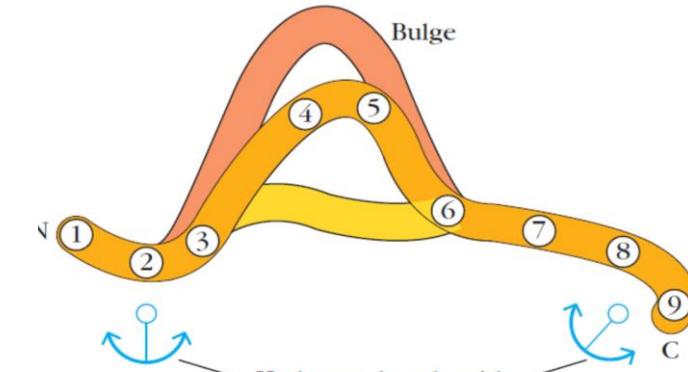
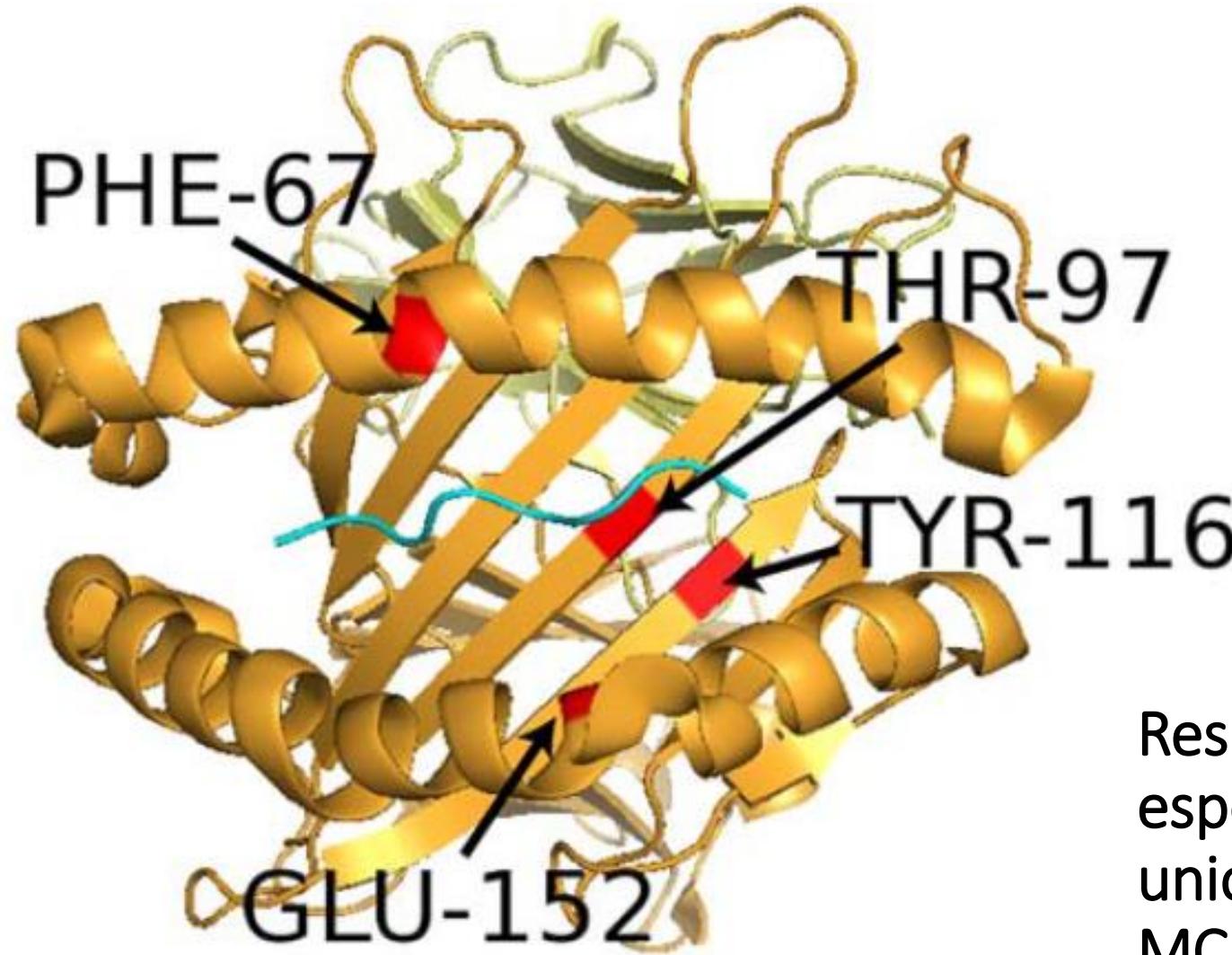
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El alelo HLA-B*51 se asoció fuertemente a la Enfermedad de Behcet en la población argentina



Polimorfismo de HLA-B*51 se traducen en alteraciones en el bolsillo de unión al antígeno

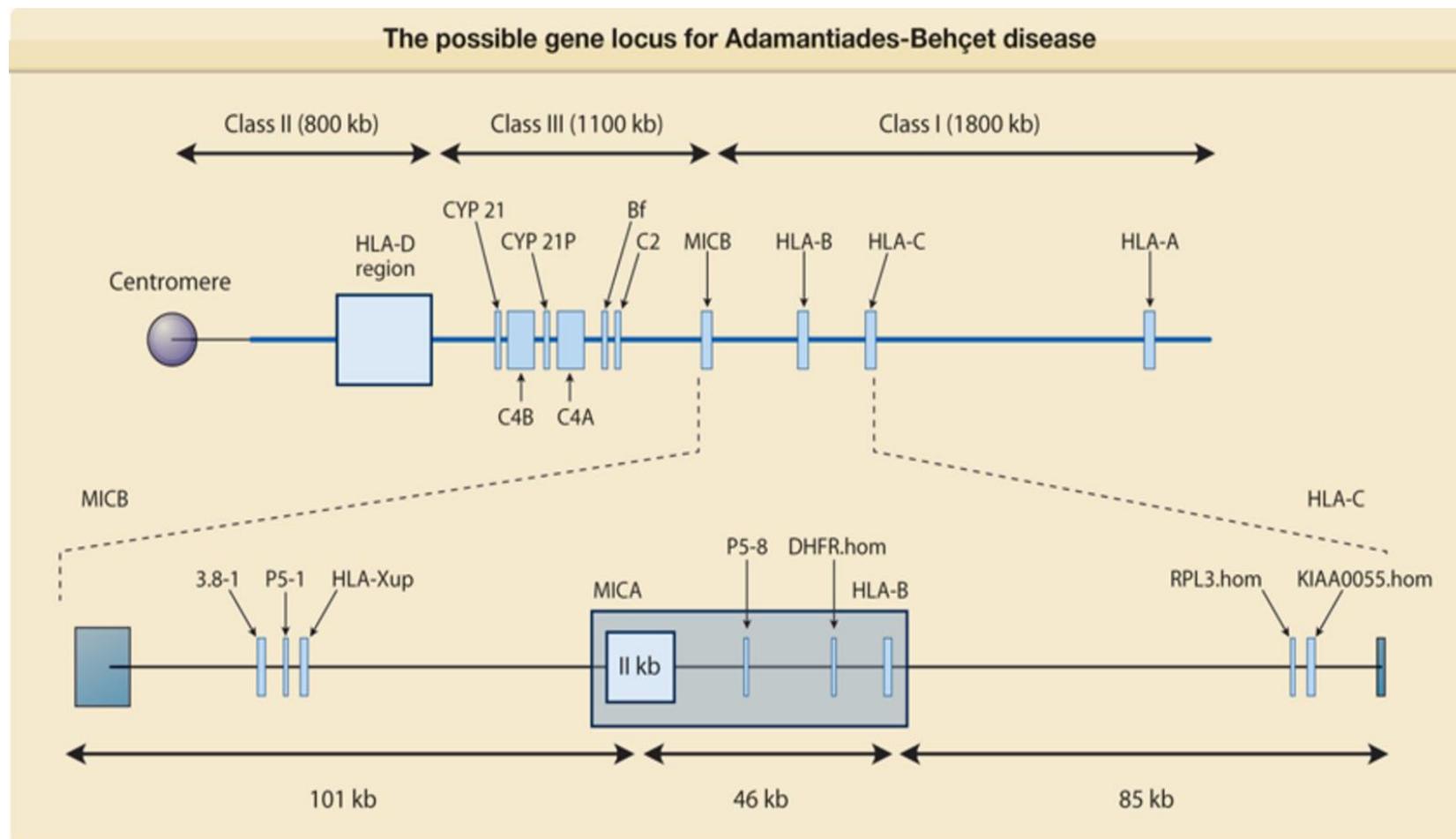
Abbas, Abul K., author. Cellular and molecular immunology / Abul K. Abbas, Andrew H. Lichtman, Shiv Pillai ; illustrations by David L. Baker, Alexandra Baker. -- Eighth edition.



Judith A. Owen et al. Kuby Immunology, 7º e

Residuos 67 y 116 definen especificidad peptídica de unión al antígeno en molécula MCH I

Susceptibilidad genética



Distribución geográfica

Agregación familiar

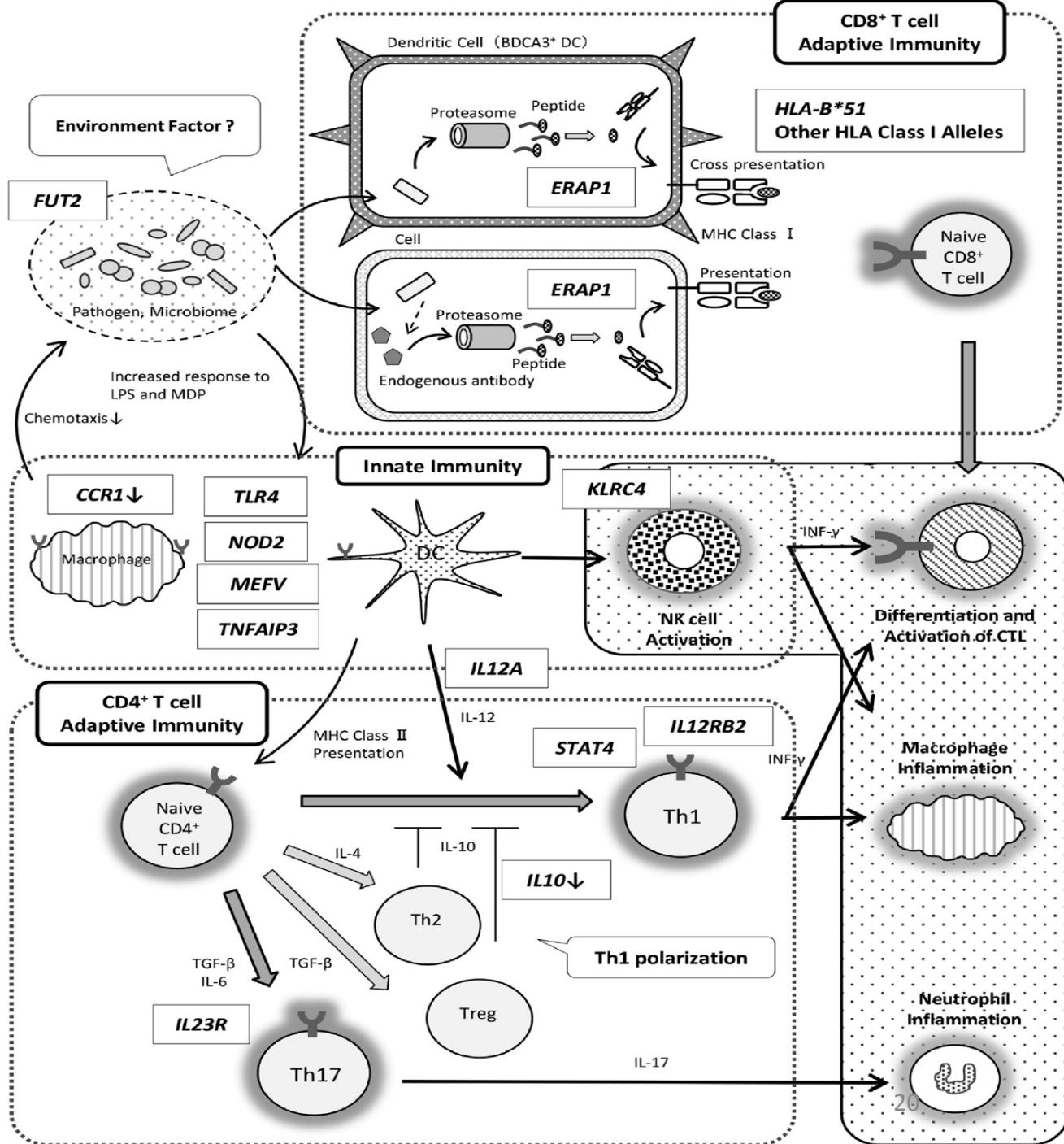
Correlación con Antígenos de clase I HLA (HLA-B51)

Polimorfismos en genes que controlan las respuesta inmune*

- Alteración microbioma
- Presentación antígenos

- Sobreactivación respuesta inmune innata

- Inducción Th-1/Th-17
- Macrófagos/ neutrófilos



AUTOINFLAMMATION

RARE MONOGENIC AUTOINFLAMMATORY DISEASES

POLYGENIC AUTOINFLAMMATORY DISEASES

MIXED PATTERN DISEASES

CLASSIC POLYGENIC AUTOIMMUNE DISEASES (ORGAN SPECIFIC AND NON-SPECIFIC)

RARE MONOGENIC AUTOIMMUNE DISEASES

FMF, TRAPS, HIDS, CAPS, PAPA
Blau Syndrome

Crohn's disease, ulcerative colitis
Degenerative diseases, e.g. osteoarthritis
Gout/pseudogout/other crystal arthropathies
Some categories of reactive arthritis and psoriasis/psoriatic arthritis
Congenital diseases with associated tissue inflammation
Non-antibody associated vasculitis including giant cell and Takayasu arteritis
Idiopathic uveitis
Erythema nodosum associated disease, including sarcoidosis

Ankylosing spondylitis
Reactive arthritis; psoriasis/psoriatic arthritis
Behcet's syndrome
Uveitis (HLA-B27 associated)

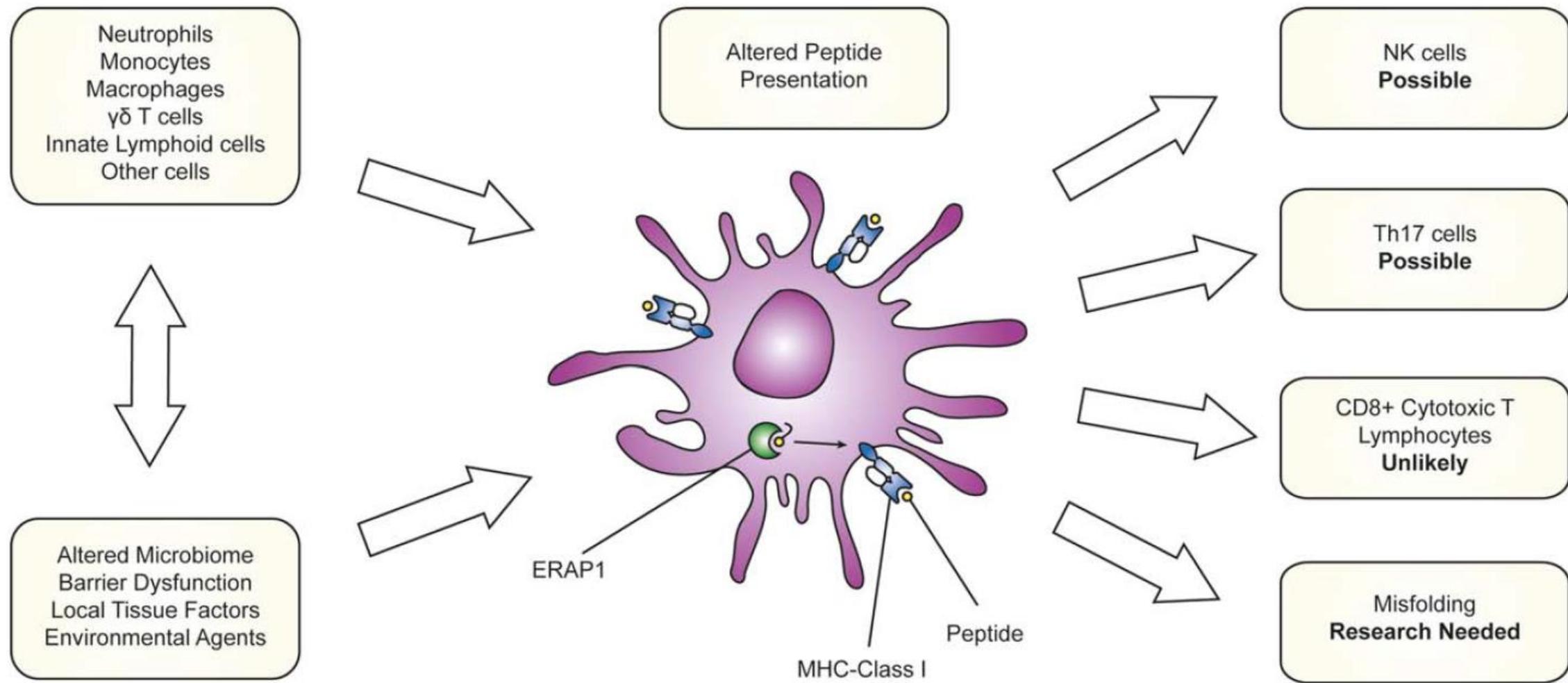
Rheumatoid arthritis
Autoimmune uveitis (sympathetic ophthalmia)
Myasthenia gravis
Dermatomyositis, scleroderma
Goodpasture syndrome
ANCA-associated vasculitis
Type 1 diabetes
Sjogren's syndrome
Systemic lupus erythematosus
Membranous nephropathy

ALPS
IPEX

Adapted from D. McGonagle & M. McDermott -
PLoS Medicine August 2006

AUTOIMMUNITY

MHC I - patía



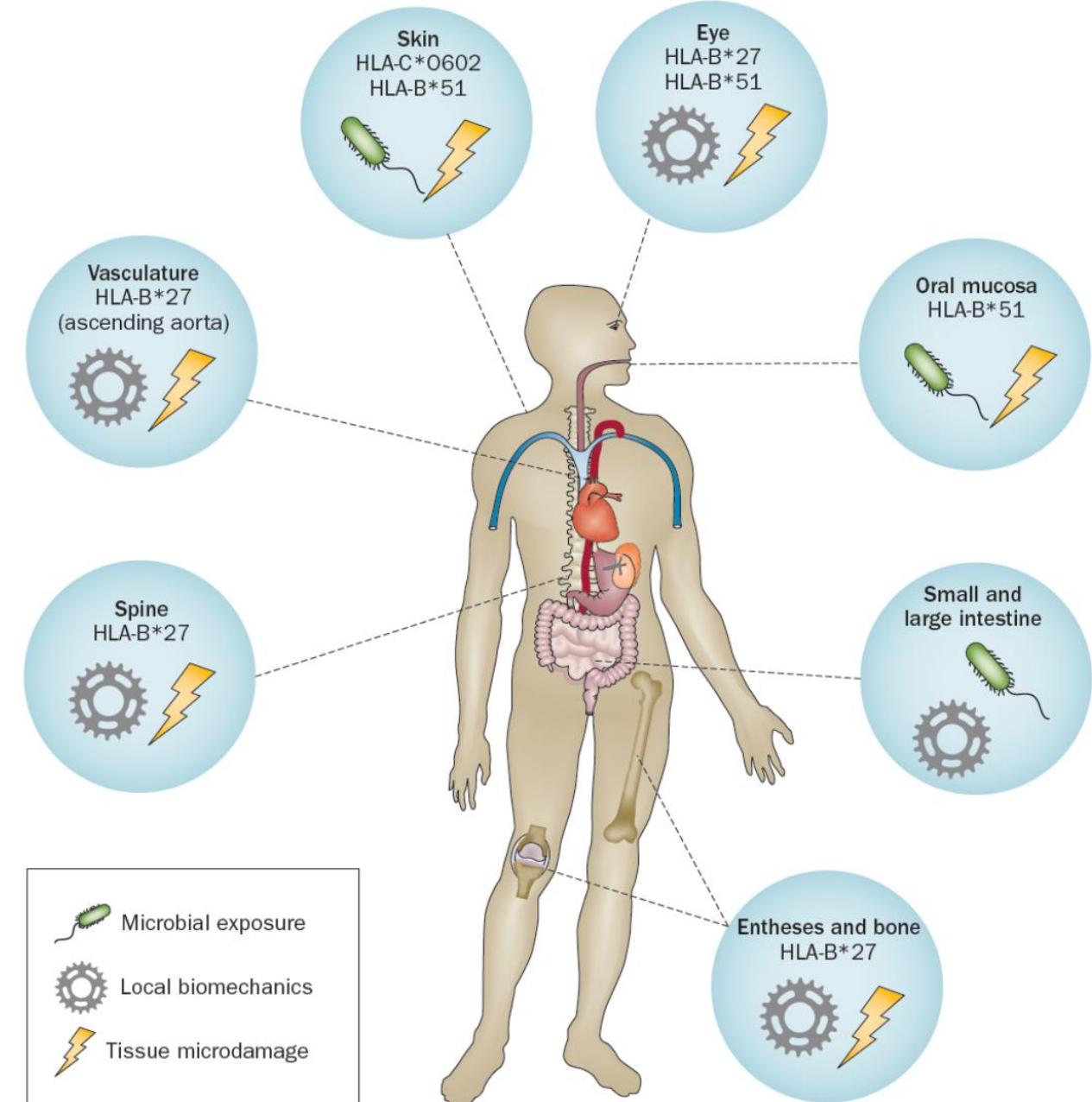
Enfermedades relacionadas con MCH I

Trauma piel:

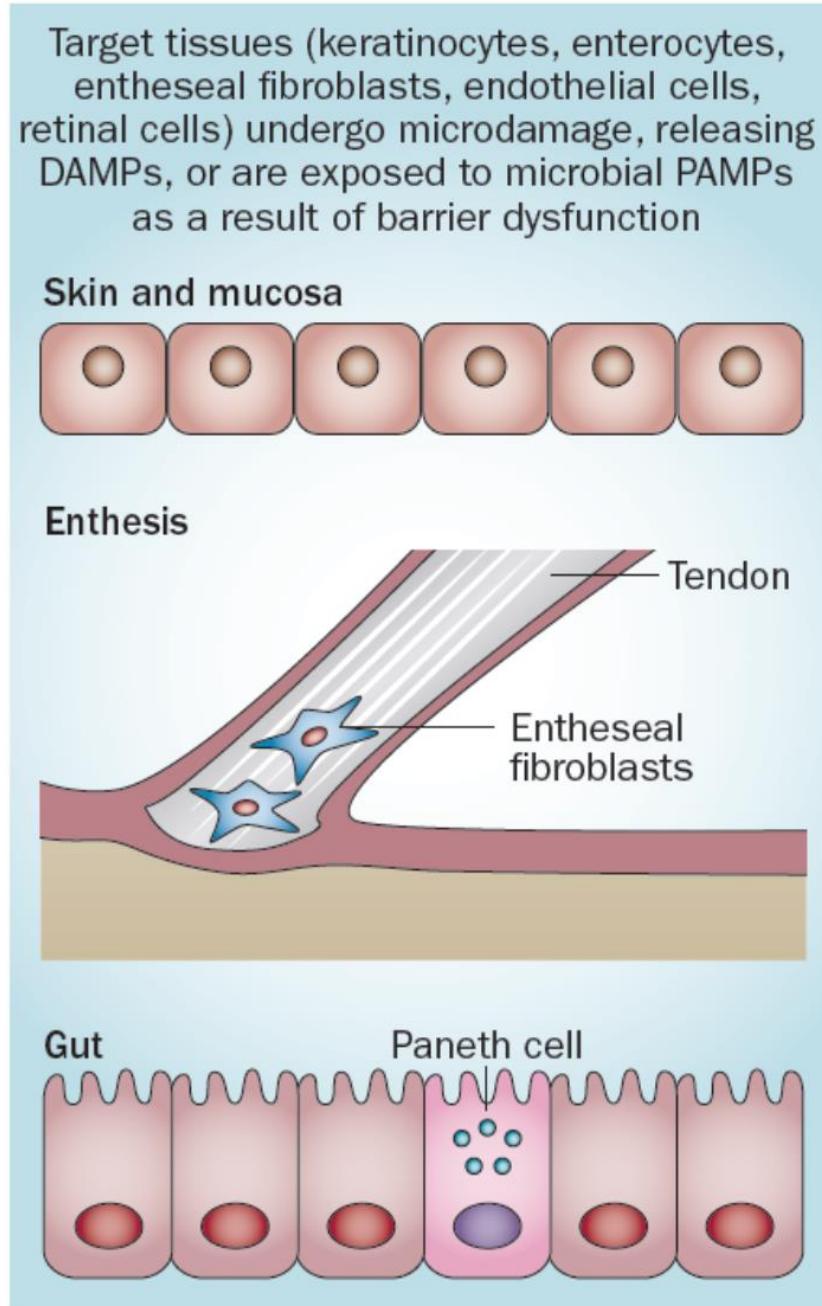
- Patergia (BD)
- Koebner (Ps)

Áreas estrés:

- Entesis (AS)



MHC –I es en enlace entre la respuesta inmune innata y adaptativa

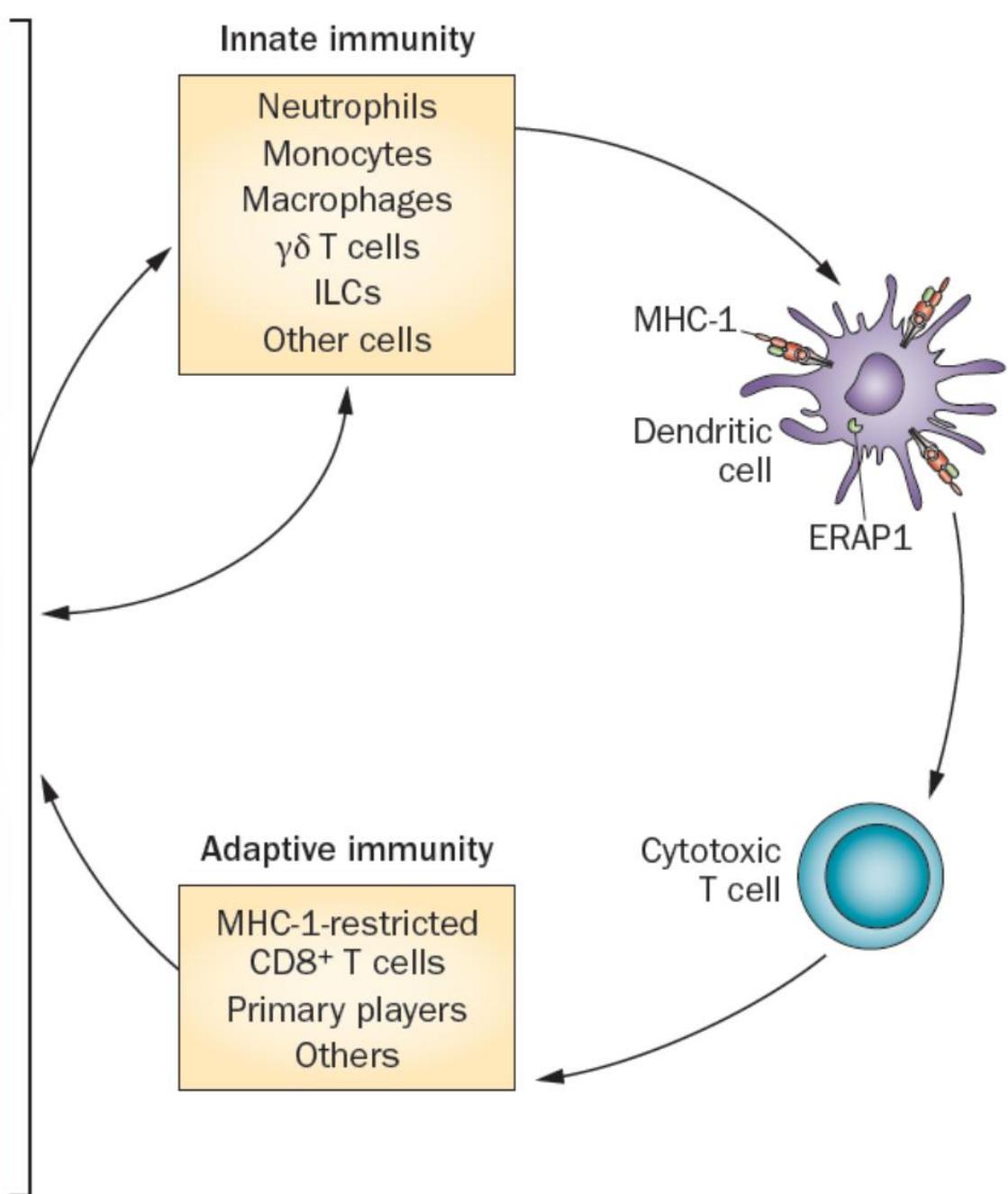


Innate immunity

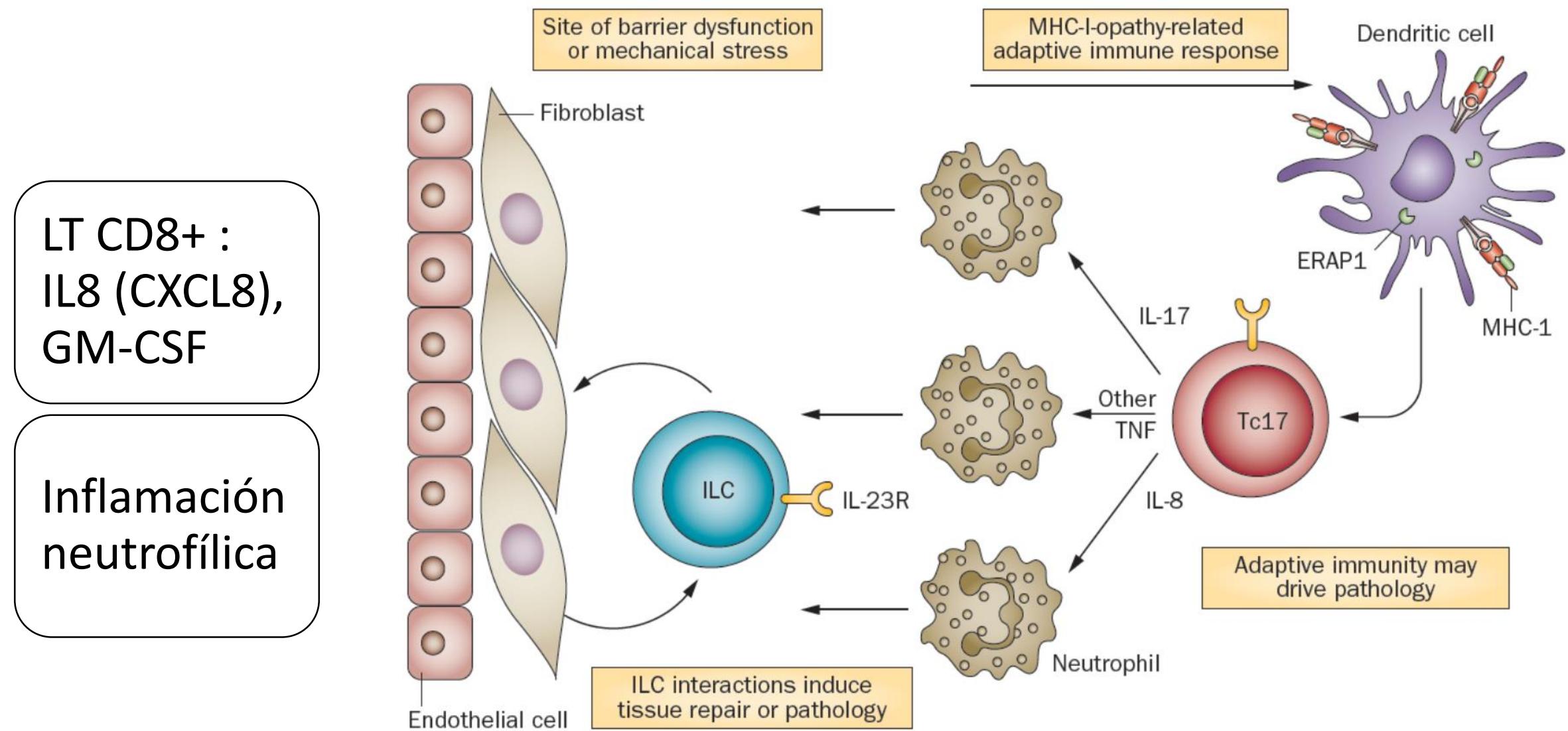
Neutrophils
Monocytes
Macrophages
 $\gamma\delta$ T cells
ILCs
Other cells

Adaptive immunity

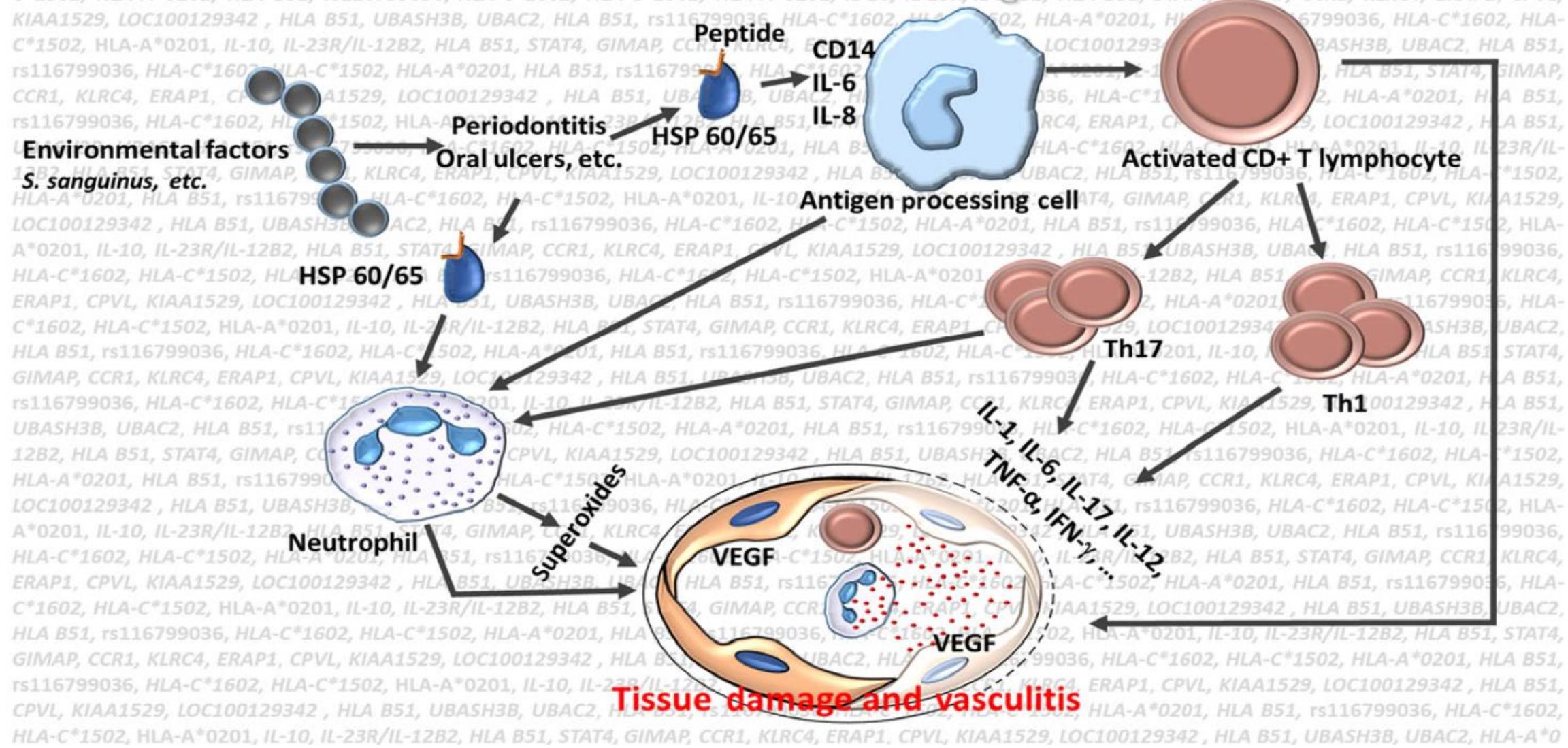
MHC-1-restricted CD8⁺ T cells
Primary players
Others



Amplificación respuesta inmune innata y adaptativa



Genetic predisposition

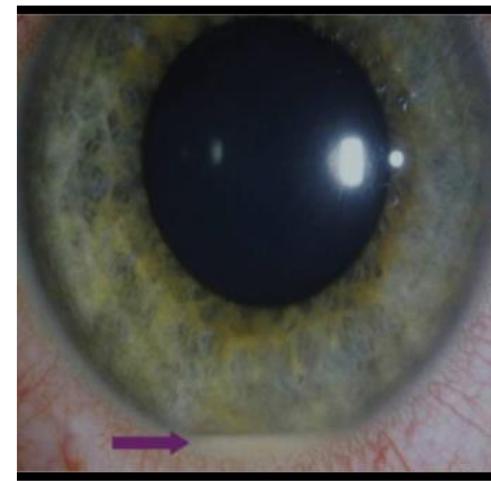


An aerial photograph of a coastal town, likely Alanya in Turkey, showing a dense cluster of white buildings with red-tiled roofs built into a rocky hillside. The town extends down to a sandy beach and a rocky coastline with clear blue water. A large, semi-transparent dark blue rectangular box covers the lower right portion of the image, containing the title.

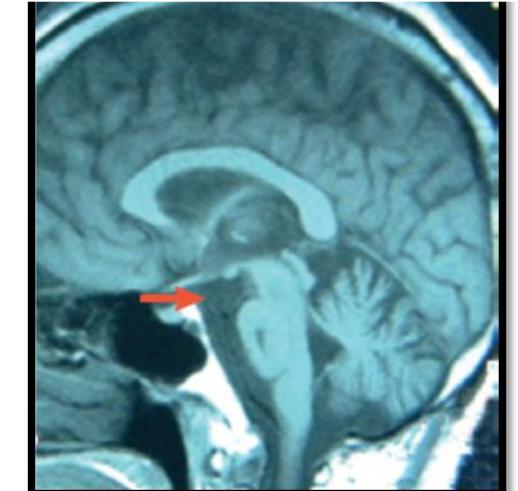
Manifestaciones clínicas

Compromiso multisistémico

Ocular



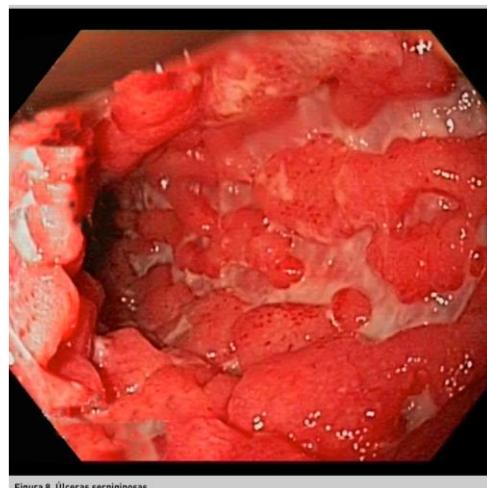
Neurológica



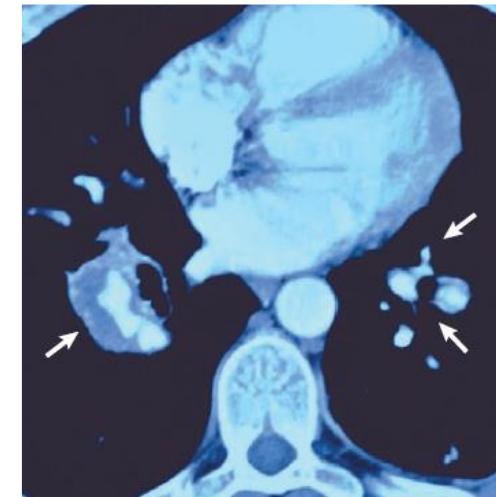
Articular



Gastrointestinal



Vascular-A



Vascular -V



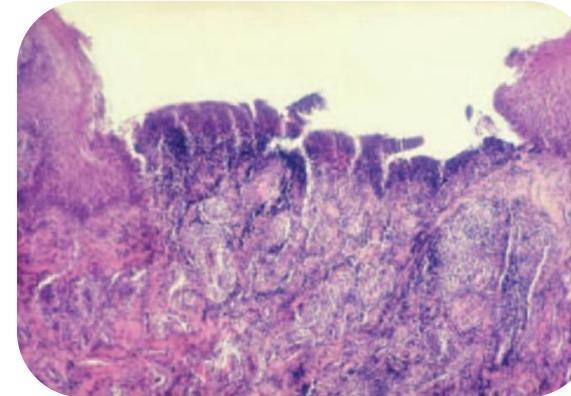
Manifestaciones mucocutáneas



Úlceras orales



Inicial *



Similar a estomatitis
aftosa recurrente



Múltiples y extensas /
Dolorosas*



Pocos mm – 2 cm



Menores < 1 cm >
mayores*

Úlcera genitales

Lesión más específica

Escroto / vulva

Dolorosas*

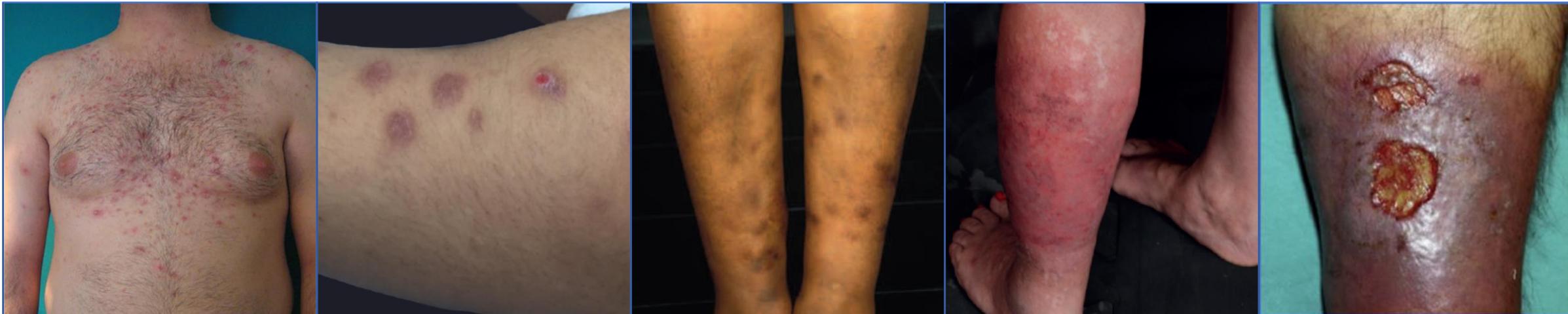
Testosterona-Neutrófilos

Cicatriz común

Epididimitis, salpingitis, varicocele*



Lesiones cutáneas



Reacciones
acneiformes*

Pseudofoliculitis

Eritema
nodoso**

Tromboflebitis
superficial

Ulcus cruris

Erupciones pápula-
vesícula-pústula

Nódulos

Eritema multiforme like

Púrpura palpable

A panoramic photograph of an ancient Roman amphitheater, likely in Hierapolis, Turkey. The massive stone seating tiers curve around a central arena. In the foreground, a large rectangular opening in the seating area reveals a lower level with some remaining structures and statues. The sky is filled with heavy, dark clouds, with bright sunlight breaking through in several places, creating a dramatic and somewhat somber atmosphere.

Diagnóstico

Características de mayor peso al diagnóstico

Elementos fuertes

- Úlceras orales
- Enfermedad ocular
- Úlceras genitales
- Compromiso vascular mayor
- Enfermedad neurológica parénquima

Elementos débiles

- Variación geográfica en expresión de enfermedad
- Asociación con E. Crohn
- Distinta presentación de enfermedad
- Respuesta diversa a varios medicamentos

Criterios diagnósticos

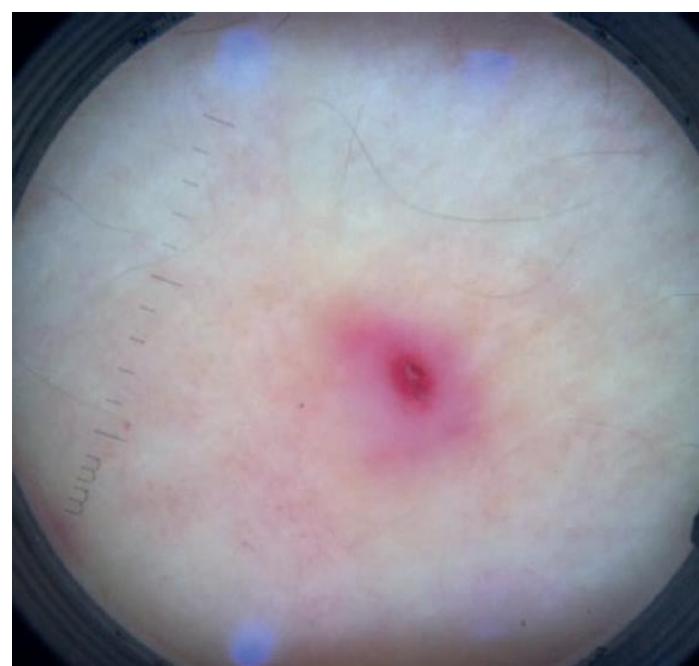
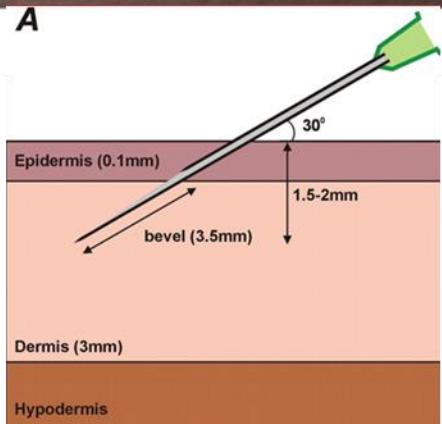
ISG criteria for the diagnosis of Behçet disease⁸⁰

Recurrent oral ulceration:	Minor aphthous, major aphthous, or herpetiform ulcers observed by the physician or patient, which have recurred at least three times over a 12-month period
Plus any 2 of the following:	
Recurrent genital ulceration:	Aphthous ulceration or scarring observed by the physician or patient
Eye lesions:	Anterior uveitis, posterior uveitis, or cells in the vitreous on slit-lamp examination; or retinal vasculitis detected by an ophthalmologist
Skin lesions:	Erythema nodosum observed by the physician or patient, pseudofolliculitis, or papulopustular lesions; or acneiform nodules observed by the physician in postadolescent
Positive pathergy test:	Test interpreted as positive by the physician at 24-48 hr
These criteria are valid in the absence of other clinical explanation	

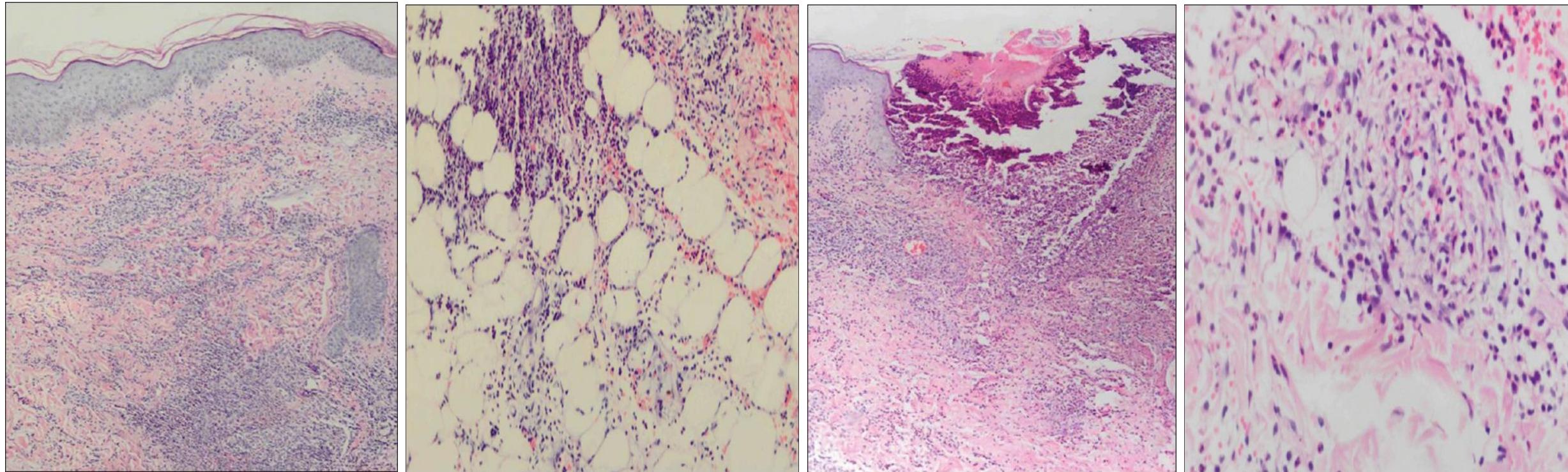
El diagnóstico es eminentemente clínico

Table 5 International Criteria for Behçet's Disease – point score system: scoring ≥ 4 indicates Behçet's diagnosis

Sign/symptom	Points
Ocular lesions	2
Genital aphthosis	2
Oral aphthosis	2
Skin lesions	1
Neurological manifestations	1
Vascular manifestations	1
Positive pathergy test*	1*



Test de patergia



Infiltrado inflamatorio mixto en dermis



Paniculitis lobular sin vasculitis



Pústula epidémica



Vasculitis leucocitoclástica



Diagnóstico diferencial

Úlceras orales



Estomatitis
aftosa
recurrente

Dolor

Frecuentes

Múltiples



Lesiones pápulopustulares



Acné
vulgar



Úlceras genitales



Artritis
reactiva
Herpes
ITS



Eritema nodoso



Otros

Múltiples

Dolorosas

Recurrentes

Áreas atípicas

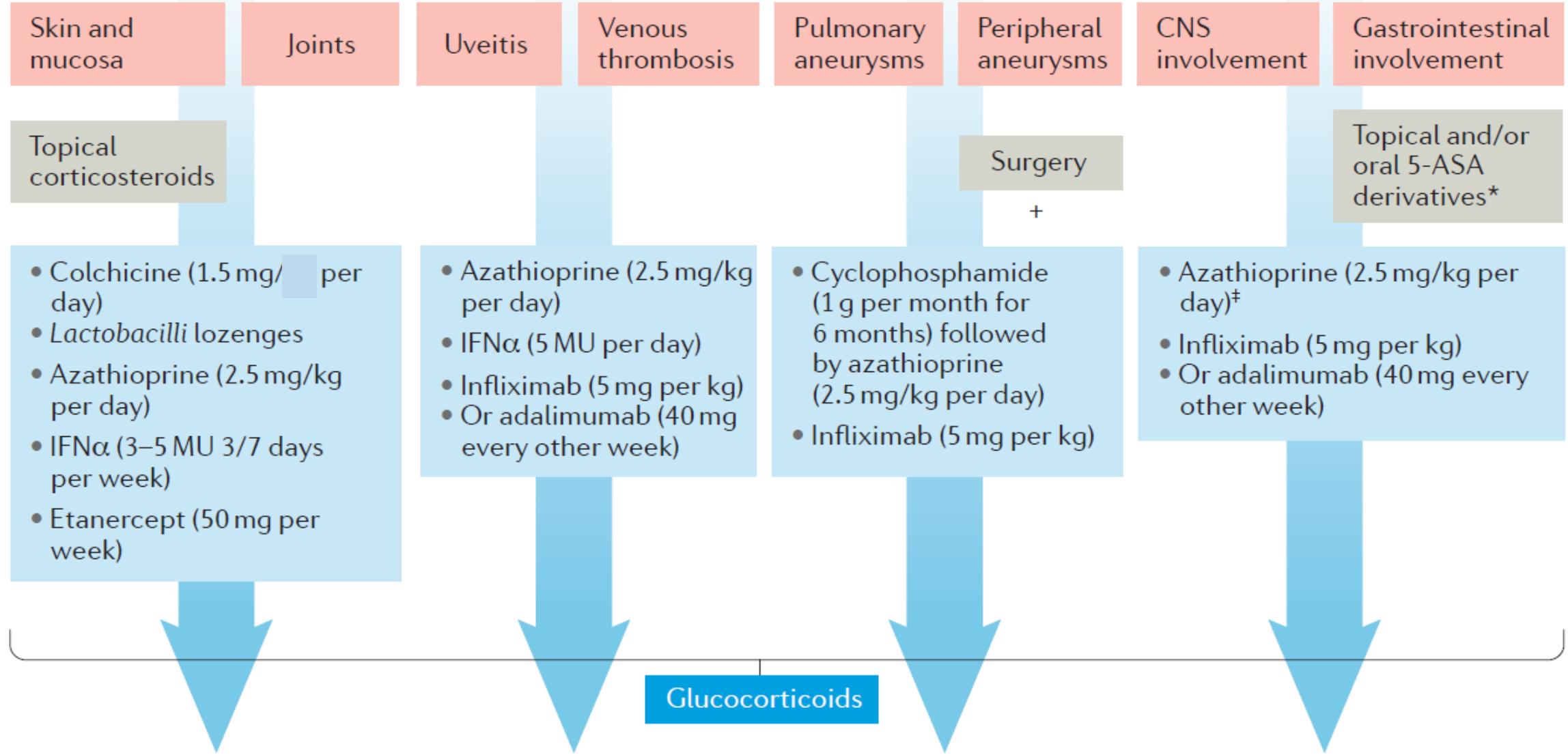
Pigmentación
residual

Vasculitis en
histopatología

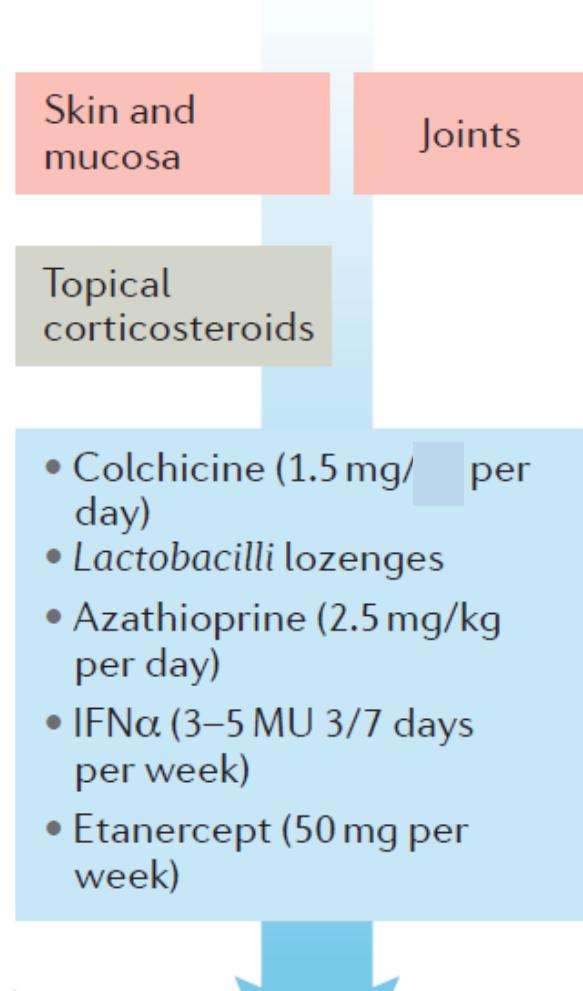


Tratamiento





Tratamiento



Acetonida de triamcinolona 0,1% (orobase)

Úlceras orales

Corticoesteroides tópicos alta potencia

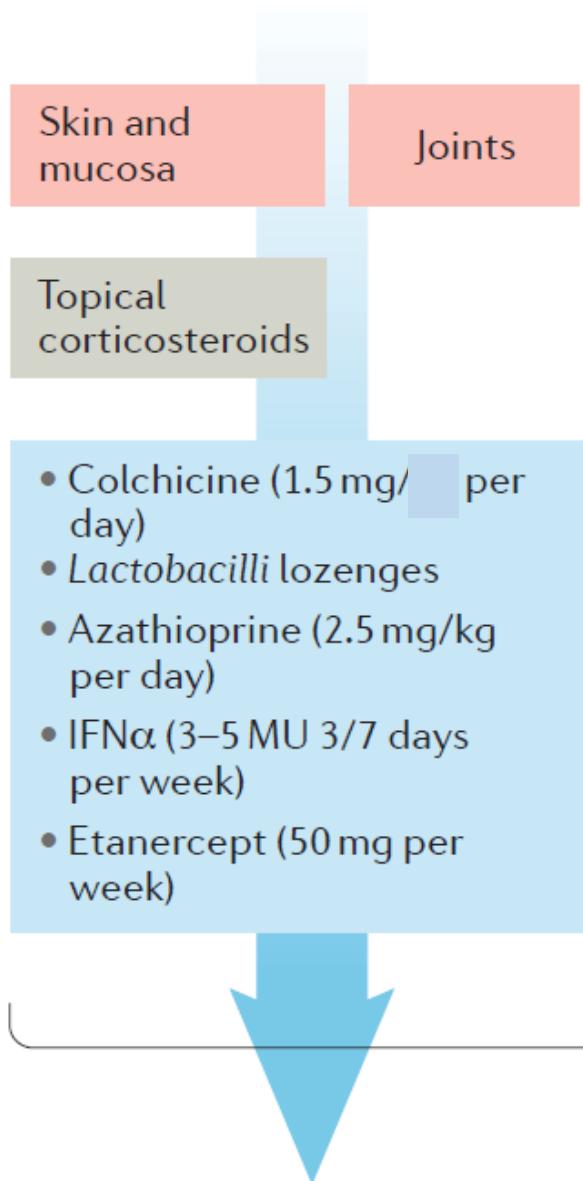
Úlceras genitales

Triamcinolona intralesional (5 a 10 mg / ml)

*Úlceras grandes *

Sucralfato tópico 1g / 5mL

Tratamiento



Colchicina de 1 a 2 mg / día

Prevención de úlceras orales y genitales recurrentes

Pseudofoliculitis, eritema nodoso, artritis

Glucocorticoides sistémicos (prednisona 15 mg / día)

Aftas orales o úlceras genitales refractarias a corticosteroides tópicos y la colchicina o lesiones múltiples

Skin and mucosa
Joints

Topical corticosteroids

- Colchicine (1.5 mg/ per day)
- Lactobacilli lozenges
- Azathioprine (2.5 mg/kg per day)
- IFN α (3–5 MU 3/7 days per week)
- Etanercept (50 mg per week)

Tratamiento

Azatioprina - ha demostrado mejorar la ulceración oral y genital

Interferón alfa : duración y dolor de úlceras orales, frecuencia de genitales y lesiones pápulopustulares

Anti TNF : en combinación con DMARD (azatioprina)*

Glucocorticoides sistémicos y otros medicamentos inmunosupresores: Eritema nodoso (posibilidad de vasculitis subyacente)

Conclusiones

Desorden inflamatorio
multisistémico

Genética
Disparadores ambientales
Respuesta Inmune Innata y
Adaptativa

Más de un mecanismo
fisiopatogenético

Manifestaciones clínicas
variables

Diagnóstico clínico

Tratamiento
multidisciplinario

Gracias

