Psoriasis: An Overview

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- Introduction
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- Clinical Presentation
- Etiology and Cell Signaling Pathways Related to Psoriasis
- Symptoms and Diagnosis

Introduction

Psoriasis can occur at any age, but it commonly has two peaks of onset: between 15 and 20 years and again between 55 and 60 years.[1] Psoriasis is broadly classified into type I, which usually begins before 40 years of age and accounts for most cases, and type II, which generally develops after 40 years. Early-onset psoriasis is more strongly associated with a family history and may be more severe than late-onset disease. It is also associated with the human leukocyte antigen (HLA)-Cw6.[1]

Causes and Risk Factors

The exact cause of psoriasis is not fully understood, but it is thought to result from a combination of genetic and environmental factors. Genetic changes can affect immune function and skin-cell development, contributing to the abnormal inflammation and rapid growth of skin cells seen in psoriasis.[2]

Several factors can trigger or worsen psoriasis, including infections, certain medications, skin trauma, and psychological stress. Lifestyle factors such as obesity and smoking may also increase the risk or severity of the disease.[2]

Clinical Presentation

Psoriasis has several clinical subtypes, with **plaque psoriasis (psoriasis vulgaris)** being the most common. Other forms include guttate, pustular, erythrodermic, and inverse psoriasis.[3]

Plaque psoriasis typically presents as well-defined, raised erythematous plaques covered with silvery-white scales. Removing the scales may produce pinpoint bleeding, known as the **Auspitz sign**. Lesions commonly occur symmetrically on the scalp, elbows, knees, lower back, and other areas exposed to friction or trauma.[3]

Nail involvement is also common and may be associated with more severe disease and an increased risk of **psoriatic arthritis**. Common nail changes include pitting, onycholysis, subungual hyperkeratosis, discoloration, and splinter hemorrhages.[3]

Etiology and Cell Signaling Pathways Related to Psoriasis

Psoriasis is a multifactorial disease influenced by genetic, immune, and environmental factors. More than 60 susceptibility genes have been identified, with **HLA-Cw6** strongly associated with early-onset

psoriasis. Environmental triggers such as psychological stress, skin injury (Köbner phenomenon), infections, and smoking may also contribute to disease development or worsening.[4]

The pathogenesis of psoriasis is mainly driven by an abnormal immune response involving **T cells, dendritic cells, and inflammatory cytokines**. Activation of immune cells in the skin leads to the release of cytokines that promote keratinocyte proliferation, abnormal differentiation, and persistent inflammation. These interactions create a cycle of inflammation that results in the characteristic psoriatic skin lesions.[4] Understanding these immune and cellular signaling pathways has helped identify important targets for modern psoriasis therapies.

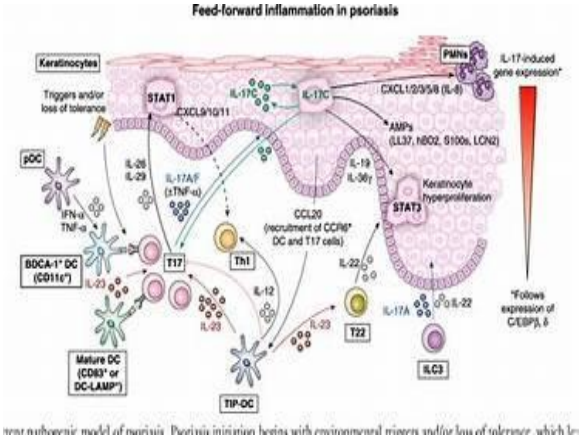


Figure 1: *Signaling Pathway for Psoriasis [4].*

Symptoms and Diagnosis

Common symptoms of psoriasis include raised, well-defined red plaques covered with silvery-white scales. These lesions may be itchy, painful, dry, or cracked. Nail involvement can cause pitting, thickening, ridging, or separation of the nail from the nail bed.[5]

Some patients also develop joint pain, stiffness, or swelling, which may indicate **psoriatic arthritis**. Diagnosis is mainly based on the clinical appearance of the skin and nails, along with the patient's medical history and symptoms. A skin biopsy may occasionally be performed when the diagnosis is uncertain.[5]

Conclusion

Psoriasis is a chronic inflammatory disease influenced by genetic, immune, and environmental factors. A balanced, individualized diet and regular physical activity may support overall health, improve quality of life, and help manage associated cardiovascular and metabolic risk factors.[5] Lifestyle measures should complement, rather than replace, appropriate medical treatment. Further research is needed to determine the most effective type and intensity of exercise and dietary strategies for patients with psoriasis.

References

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