



NARRATIVE REVIEW OF PSORIASIS: PATHOGENESIS, CLINICAL FEATURES AND MANAGEMENT STRATEGIES

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ABSTRACT

Psoriasis is a chronic autoimmune disorder that affects approximately 2-3% of the global population. It is characterized by red, scaly, and itchy patches on the skin that can cause significant discomfort and have a negative impact on patients' quality of life. Despite being a well-known condition, the pathogenesis of psoriasis remains poorly understood, and there is no cure for the disease. Therefore, the management of psoriasis primarily focuses on symptom relief and improving patients' quality of life. The epidemiology of psoriasis varies by geographic location, ethnicity, and age, with some studies suggesting a higher prevalence among certain populations. The most common subtype of psoriasis is plaque psoriasis, which is characterized by erythematous plaques covered with silvery scales. Other clinical subtypes include guttate psoriasis, pustular psoriasis, erythrodermic psoriasis, and inverse psoriasis. Each subtype has unique clinical features and requires specific management strategies. Epidemiological studies have identified several risk factors for psoriasis, including family history, smoking, obesity, and stress. The exact mechanisms by which these factors contribute to the development and progression of psoriasis are not fully understood. However, it is thought that genetic and environmental factors interact to disrupt the normal immune response and trigger the inflammatory cascade that drives psoriasis pathogenesis.

KEYWORDS : psoriasis, pathogenesis, treatment, management, clinical features.

INTRODUCTION

Psoriasis is a chronic autoimmune disorder that affects approximately 2-3% of the global population. It is characterized by red, scaly, and itchy patches on the skin that can cause significant discomfort and have a negative impact on patients' quality of life. Despite being a well-known condition, the pathogenesis of psoriasis remains poorly understood, and there is no cure for the disease. Therefore, the management of psoriasis primarily focuses on symptom relief and improving patients' quality of life (1,2).

This narrative review aims to provide an overview of the current understanding of psoriasis pathogenesis, clinical features, and available management strategies. The review includes an analysis of the genetic and environmental factors that contribute to the development of psoriasis and the underlying immune system dysregulation that drives the disease's progression.

METHODS

This narrative review on psoriasis was conducted following a comprehensive search of electronic databases including PubMed, MEDLINE, and Embase. The search strategy used a combination of keywords such as "psoriasis," "pathogenesis," "treatment," and "management." Additionally, the reference lists of selected articles were screened for relevant studies. Studies were considered for inclusion if they met the following criteria: (1) published in English and Spanish language; (2) original research or review article on psoriasis; (3) focused on pathogenesis, treatment, or management of psoriasis; and (4) published between 2010 and 2022.

Data extraction was performed by one reviewer. Data extracted included study design, sample size, interventions, outcomes, and key findings. Data synthesis and analysis involved a narrative approach that included the synthesis of the findings of the included studies. Results were presented thematically based on the pathogenesis, treatment, and management of psoriasis.

Epidemiologic Features and Clinicopathological Correlations

Psoriasis is a chronic inflammatory skin disease that affects 2-3% of the global population. It has a wide range of clinical manifestations and can be classified into several subtypes based on its clinical features. The epidemiology of psoriasis varies by geographic location, ethnicity, and age, with some

studies suggesting a higher prevalence among certain populations. The most common subtype of psoriasis is plaque psoriasis, which is characterized by erythematous plaques covered with silvery scales. Other clinical subtypes include guttate psoriasis, pustular psoriasis, erythrodermic psoriasis, and inverse psoriasis. Each subtype has unique clinical features and requires specific management strategies (3).

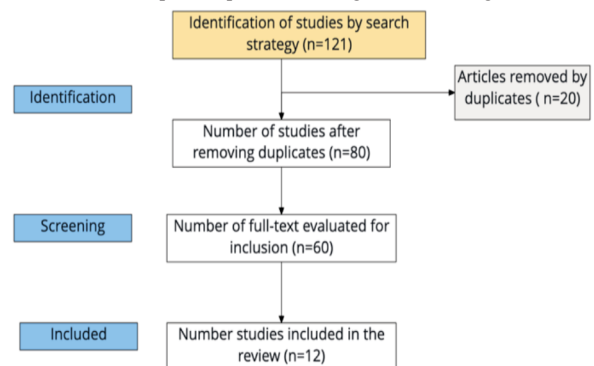


Figure 1. PRISMA.

Clinicopathological correlations are important in the diagnosis and management of psoriasis. The histopathology of psoriasis typically shows hyperkeratosis, acanthosis, and parakeratosis, along with infiltration of immune cells, such as T cells and dendritic cells. The presence of psoriasiform epidermal hyperplasia and immune cell infiltration can help distinguish psoriasis from other inflammatory skin diseases. The clinical severity of psoriasis can range from mild to severe, and its impact on patients' quality of life can be significant. Patients with psoriasis may experience itching, pain, and social stigmatization due to the visible nature of the disease. Psoriasis has also been associated with various comorbidities, including cardiovascular disease, metabolic syndrome, and depression (3,4).

Epidemiological studies have identified several risk factors for psoriasis, including family history, smoking, obesity, and stress. The exact mechanisms by which these factors contribute to the development and progression of psoriasis are not fully understood. However, it is thought that genetic and environmental factors interact to disrupt the normal immune response and trigger the inflammatory cascade that drives psoriasis pathogenesis (4).

Clinical manifestations

Psoriasis is a chronic inflammatory skin disease that is characterized by well-defined, red, scaly plaques. The clinical manifestations of psoriasis can vary depending on the subtype of the disease and the location of the affected skin. The most common subtype of psoriasis is plaque psoriasis, which accounts for approximately 80% of all cases. Plaque psoriasis typically presents as well-demarcated, erythematous plaques covered with silvery scales. The plaques can be localized or widespread, and they most commonly occur on the scalp, elbows, knees, lower back, and nails. The lesions may be asymptomatic or may cause itching, burning, or pain. The severity of plaque psoriasis can range from mild to severe, and it can have a significant impact on patients' quality of life (5).

Guttate psoriasis is another subtype of psoriasis that is characterized by small, drop-like lesions that appear suddenly on the trunk, arms, and legs. It is often triggered by a streptococcal infection and is more common in children and young adults. Guttate psoriasis may resolve on its own or progress to chronic plaque psoriasis. Pustular psoriasis is a rare subtype of psoriasis that is characterized by pus-filled blisters that appear on the skin. It can be localized or widespread, and it can be associated with fever, chills, and other systemic symptoms. The blisters may be painful or pruritic, and they can lead to skin breakdown and infection (5,6).

Erythrodermic psoriasis is a severe form of psoriasis that involves widespread inflammation of the skin. It can be life-threatening and requires urgent medical attention. The skin may appear bright red, swollen, and warm to the touch, and it may shed scales and become itchy or painful. Erythrodermic psoriasis can be triggered by a variety of factors, including infections, medications, and abrupt withdrawal of systemic corticosteroids. Inverse psoriasis, also known as intertriginous psoriasis, is a subtype of psoriasis that affects skin folds, such as the axillae, groin, and inframammary areas. It is characterized by smooth, red plaques that lack the scaling seen in other types of psoriasis. Inverse psoriasis can be exacerbated by sweating, friction, and fungal infections (5,6).

Psoriasis of the nails, also known as nail psoriasis, can cause thickening, discoloration, and pitting of the nails. It can be a sign of more severe psoriasis and can lead to functional impairment and social stigma (6).

Diagnosis

The diagnosis of psoriasis is primarily based on clinical examination and history, as there are no specific laboratory tests or imaging studies that can definitively confirm the disease. However, certain diagnostic criteria have been established to aid in the diagnosis of psoriasis (7).

The first step in the diagnosis of psoriasis is a thorough physical examination, which includes inspection of the skin, scalp, and nails. The clinician will look for well-demarcated, erythematous plaques with silvery scales, as well as other characteristic features of psoriasis such as nail pitting and onycholysis. The distribution and severity of the lesions will also be noted. A complete medical history will be obtained, including information about family history, past medical history, and current medications. This information is important, as psoriasis has a genetic component and can be exacerbated by certain medications (8,9).

In some cases, a skin biopsy may be performed to confirm the diagnosis of psoriasis. The biopsy involves taking a small sample of skin tissue and examining it under a microscope. The characteristic histological features of psoriasis, such as hyperkeratosis, parakeratosis, and elongation of the rete

ridges, can be seen on biopsy. In addition, laboratory tests may be ordered to rule out other possible causes of the skin lesions, such as fungal infections or autoimmune diseases. These tests may include a fungal culture, a complete blood count, and an erythrocyte sedimentation rate (8,9).

Once the diagnosis of psoriasis has been established, it is important to assess the severity of the disease. The most widely used tool for assessing psoriasis severity is the Psoriasis Area and Severity Index (PASI), which takes into account the extent and severity of the lesions as well as the impact on the patient's quality of life. Other tools, such as the Dermatology Life Quality Index (DLQI) and the Skindex, can also be used to assess the impact of psoriasis on patients' quality of life (9).

Treatment

Psoriasis is a chronic inflammatory skin condition that can have a significant impact on patients' quality of life. While there is no cure for psoriasis, there are a variety of treatment options available that can help to manage the symptoms and improve patients' overall well-being. Topical treatments are often the first line of therapy for mild to moderate psoriasis. These include corticosteroids, vitamin D analogs, and retinoids. Corticosteroids are potent anti-inflammatory agents that can reduce redness, swelling, and itching. Vitamin D analogs and retinoids can help to normalize skin cell growth and differentiation. Other topical treatments, such as coal tar, salicylic acid, and calcineurin inhibitors, can also be used to manage psoriasis symptoms (10).

For patients with more extensive or severe psoriasis, phototherapy or systemic therapy may be necessary. Phototherapy involves exposing the skin to ultraviolet light, which can reduce inflammation and slow down skin cell growth. Systemic therapy refers to the use of oral or injectable medications that target the immune system and reduce inflammation. These medications include methotrexate, cyclosporine, acitretin, and biologic agents such as TNF-alpha inhibitors, interleukin inhibitors, and phosphodiesterase-4 inhibitors (10,11).

Biologic agents are a newer class of medications that have revolutionized the treatment of psoriasis. These drugs target specific proteins or cells in the immune system that are involved in the development of psoriasis. Biologics are highly effective at reducing psoriasis symptoms and improving quality of life, but they can be expensive and may have side effects such as increased risk of infection. In addition to these traditional treatment options, there are also alternative therapies that some patients find helpful in managing their psoriasis. These include dietary changes, supplements, and herbal remedies. While there is limited scientific evidence to support the use of these therapies, some patients report improvement in their psoriasis symptoms with their use (11).

It is important to note that not all treatments work for all patients, and it may take some trial and error to find the most effective treatment for each individual. It is also important to work closely with a healthcare provider to monitor the effectiveness and safety of any treatment regimen. In addition to medical treatments, there are also lifestyle modifications that can help to manage psoriasis symptoms. These include avoiding triggers such as stress, smoking, and alcohol consumption, as well as maintaining a healthy diet and exercise regimen. Moisturizing the skin and avoiding excessive scratching can also help to reduce symptoms (11,12).

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