

## Heterogeneity among Different Presentations of Psoriasis. A Review of the Broad Spectrum of Its Presentation

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### ABSTRACT

Various clinical manifestations can be seen in patients who suffer from psoriasis, which is a chronic inflammatory skin condition that is influenced by hereditary factors and the immune system's response. Although the global incidence of the disease is approximately 2%, the prevalence of the disease varies across geographical regions and ethnic groups. Psoriasis vulgaris, the most common cause of psoriasis, is characterized by red, itchy patches that are covered in silver-colored scales. This form of psoriasis primarily affects the scalp, limbs, and trunk. Inverse psoriasis, guttate psoriasis, pustular psoriasis, and erythrodermic psoriasis are some of the other clinical subtypes of psoriasis. Each of these subtypes has its own unique characteristics and adverse effects. In addition to its manifestations on the skin, psoriasis is linked to a number of other medical conditions that simultaneously manifest themselves. These conditions include hyperlipidemia, hypertension, coronary artery disease, type 2 diabetes, and obesity. Those who suffer from psoriasis are at a greater risk of developing cardiovascular disease, and the severity of the condition is correlated with the number of instances of diabetes and cardiovascular events. In addition, approximately forty percent of patients are affected by psoriatic arthritis, which frequently occurs in conjunction with nail involvement. Psoriasis patients have been the subject of recent research that has shed light on systemic inflammation and cardiovascular risk. These studies have utilized imaging techniques such as 18F-fluorodeoxyglucose positron emission tomography-computed tomography (18F-FDG PET/CT) and nuclear magnetic resonance spectroscopy. Treatments that target IL-23 and IL-17 have demonstrated encouraging results; however, there are still concerns regarding the long-term efficacy and drug survival of these treatments. Psoriasis has a significant impact on the quality of life of patients, causing them to experience psychological distress that is comparable to that of cancer and depression. The treatment, on the other hand, has the potential to significantly alleviate symptoms and improve overall good health. The current research endeavors to broaden the range of treatment options, with a particular emphasis on identifying novel molecular pathways. In conclusion, although there has been significant progress made in understanding and treating psoriasis, there are still challenges surrounding the optimization of therapy selection and the management of the condition over the long term. It is necessary to conduct additional research in order to better understand the intricate genetic and immunological factors that contribute to the disease and to improve the outcomes of treatment for those who are afflicted with it.

**KEYWORDS:** Psoriasis, classification, and skin diseases

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### INTRODUCTION

Psoriasis is a skin condition that lasts for a long time and is characterized by inflammation. It is influenced by hereditary factors and involves a response from the immune system. The global incidence is approximately 2%; however, it may vary

depending on the geographical areas that are being considered. In populations of Caucasian and Scandinavian descent, the prevalence of this condition ranges from 2% to 11%, while the incidence of this condition is lower in Asian and certain African ethnicities.

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### IN CLINICAL TERMS, CLASSIFICATION

There is a wide range of dermatological manifestations associated with psoriasis; however, the most prevalent form of the condition is psoriasis vulgaris, also referred to as plaque-type psoriasis. In the scientific literature, the terms psoriasis and psoriasis vulgaris are frequently used interchangeably. Having said that, it is of the utmost importance to keep in mind that the various clinical subtypes 5 exhibit notable differences within themselves.

Psoriasis vulgaris is a common form of the skin condition known as psoriasis.

Patients who suffer from psoriasis are classified as having chronic plaque-type psoriasis approximately 90 percent of the time. In most cases, the clinical manifestations consist of clearly defined, red, itchy patches that are covered in scales of a silvery color. The plaques have the capacity to combine with one another and spread across large areas of the skin simultaneously. Typical locations where this condition can be found are the scalp, the outer surfaces of the limbs, and the trunk of the body.

Psoriasis that is characterized by the opposite effect or reaction is referred to as inverse psoriasis.

Specifically affecting areas of the body where skin folds overlap, inverse psoriasis is clinically identified by somewhat erosive red plaques and patches 7. In addition to being known as flexural psoriasis, this condition is also known as psoriasis. One type of psoriasis that affects the skin is called guttate psoriasis, and it is characterized by small lesions that are drop-shaped.

Guttate psoriasis is a type of psoriasis that is characterized by the sudden appearance of small, red plaques on the skin. Infections of the tonsils caused by group A streptococci are the most common cause of this condition, which typically affects children or adolescents more frequently. It is estimated that approximately 33 percent of individuals who have been diagnosed with guttate psoriasis will go on to develop plaque psoriasis over the course of their adult years.

There is a type of psoriasis that is characterized by the presence of pustules, and it is called pustular psoriasis. The presence of numerous pustules that merge together and are sterile is the defining characteristic of pustular psoriasis. The condition known as pustular psoriasis can demonstrate itself in either a localized or widespread manner. There are two distinct types of skin conditions that have been recognized: psoriasis pustulosa palmoplantaris (PPP) and acrodermatitis continua of Hallopeau. Both of these conditions are specific to the skin. PPP is a condition that specifically affects the palms and soles of the feet, whereas ACS is more localized in the fingertips and toes, and it causes damage to the nail structure. Both conditions have an effect on the hands and feet. Generalized pustular psoriasis is a condition that manifests itself in a sudden and rapid manner, characterized by widespread redness and the formation of pustules beneath the layers of skin that are on the surface. There are times when it is accompanied by symptoms that affect the entire body 9.

Inflammation and redness are the hallmarks of erythrodermic psoriasis, a condition that manifests itself suddenly and affects more than 90 percent of the surface of the body simultaneously. Erythroderma is a condition that can manifest itself in any form of psoriasis and requires prompt action from a medical professional 10.

Patients who suffer from psoriasis often have other medical conditions at the same time.

Psoriasis is a skin condition that primarily affects the skin, but it can also cause damage to the joints and has been linked to a number of other conditions. Psoriasis is characterized by inflammation that affects not only the skin but also other organ systems. This extension of inflammation has been demonstrated. Therefore, rather than being a disorder that is solely associated with the skin, psoriasis is thought to be a condition that affects the central nervous system. Patients with psoriasis have a higher prevalence of hyperlipidemia, hypertension, coronary artery disease, type 2 diabetes, and elevated body mass index in comparison to individuals who serve as controls. Individuals who suffer from psoriasis have been found to have a prevalence of the metabolic syndrome that is twice as high as the general population. This syndrome is characterized by the presence of all of the disorders mentioned above in a single patient. Psoriasis patients had a twofold increase in the prevalence of coronary plaques compared to control participants. This was the case when comparing the two groups. The severity of psoriasis has been shown to be positively associated with an increased risk of developing diabetes and cardiovascular disease, according to the findings of a number of significant studies that have been conducted. When it comes to the question of whether or not psoriasis is an independent risk factor for cardiovascular disease, there is a lack of consensus among specialists. Psoriasis, on the other hand, appears to be associated with an increased risk of cardiovascular disease-related deaths, including heart attacks and strokes, according to the current body of evidence. In addition to this, it was demonstrated that the risk additionally extends to individuals who have moderate psoriasis, albeit to a lesser degree.

Quantification of vascular inflammation was accomplished through the utilization of 18F-fluorodeoxyglucose positron emission tomography-computed tomography, also known as 18F-FDG PET/CT. Based on the findings, it was determined that the duration of psoriasis had a negative influence on the ability to predict outcomes. The cumulative effect of mild inflammation that has been present for an extended period of time has been shown to have the potential to hasten the progression of vascular disease [29]. Through the use of FDG-PET/CT, Metha and colleagues conducted a study in which they measured the levels of systemic and vascular inflammation in six individuals who suffered from moderate to severe psoriasis. Skin, joints, and tendons all showed signs

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of inflammation, which was to be expected given the circumstances. Additionally, the liver and the aorta both showed signs of FDG uptake, which is indicative of the presence of subclinical systemic inflammation on the body. Furthermore, according to Kim's research published in 2018, the administration of ustekinumab led to a reduction in the standardized uptake values in the liver, spleen, and aorta.

Psoriatic arthritis, also known as PsA, is condition that develops as a result of inflammation in the joints that is brought on by psoriasis. In many cases, the development of psoriatic arthritis (PsA) occurs after the manifestation of skin symptoms. Psoriasis-like atopic dermatitis (PsA) is characterized by persistent inflammation, which is similar to psoriasis. PsA can lead to progressive damage, which requires therapy that is administered systemically. In approximately forty percent of people who have psoriasis, they will develop psoriatic arthritis. It is estimated that approximately fifteen percent of people who have psoriasis also have been diagnosed with psoriatic arthritis. Dactylitis and enthesitis are the clinical manifestations of this condition, which can occur in either oligoarticular or polyarticular patterns. When it comes to the polyarticular variety, nail involvement is frequently seen. The inflammation that is brought on by psoriasis has the potential to have an effect on the nails, which are specialized structures that are a part of the skin. It has been observed that nail psoriasis affects more than fifty percent of people who have psoriasis, and in five to ten percent of patients having psoriasis, it may be the only symptom of the condition. There is a correlation between the specific structure that is affected by the inflammatory process and the manifestation of nail psoriasis. The presence of pitting, leukonychia, and onychodystrophy are the characteristics that define the involvement of the nail matrix. The presence of oil-drop staining, splinter hemorrhages, and onycholysis, on the other hand, are all signs that indicate inflammation of the nail bed. There is a correlation between psoriatic nail involvement and joint involvement, and nail symptoms are present in as many as 80 percent of people who have psoriatic arthritis (PsA).

Psoriasis is associated with a higher risk of developing cardiometabolic illness, as well as a higher incidence of gastrointestinal and chronic renal disease. This is because psoriasis is linked to a higher likelihood of developing these conditions. More evidence for the connection can be found in the presence of susceptibility loci that are shared by both psoriasis and inflammatory bowel disease. This is especially true in relation to Crohn's disease. It has been demonstrated that there is a connection between imaging investigations and the presence of minor liver disease. Regardless of known risk factors such as demographics, cardiovascular health, or medication use, psoriasis may increase the likelihood of developing chronic kidney disease and end-stage renal disease. This increased likelihood is independent of the presence of other risk factors.

When all of the many factors that contribute to psoriasis as a systemic illness are taken into consideration, it becomes clear that these factors can have a significant impact on the severity of the condition as well as the quality of life of patients. Psoriasis has a negative impact on psychological quality of life that is comparable to that of other conditions such as depression, myocardial infarction, and cancer. It is believed that the symptoms of the condition, which include discomfort, itching, and bleeding, as well as the related conditions that were mentioned earlier, are responsible for the significant prevalence of the disease.

The contemporary significance of psoriasis lies in the fact that it has an impact on both psychological and mental well-being. This is because it has a direct influence on both the outcomes of treatment and the welfare of society. The prevalence of feelings of depression, anxiety, and thoughts of suicide is significantly higher among people who have been diagnosed with psoriasis. In a remarkable turn of events, the treatment of psoriasis leads to a significant improvement in the symptoms associated with anxiety. It is clear that this has a beneficial effect on the overall outlook regarding the condition.

Psoriasis is a complex condition that can be caused by a number of different factors, and in recent years, a number of new medications have been developed to treat it. Psoriasis is still a condition that can be managed although it is still incurable, despite the advancements that have been made in targeted therapy. It has been demonstrated that targeted treatments are highly effective in inhibiting IL-23 and IL-17 in clinical settings. The fact that these medications have demonstrated a long-lasting antipsoriatic effect even after the drugs have been discontinued lends credence to the concept of illness modification.

### CONCLUSION

Research both currently being conducted and planned for the future will continue to investigate this significant discovery. In many cases, however, the initial clinical response is only temporary, which is why it is necessary to employ an alternative biologic as a form of treatment. It is without a doubt necessary to conduct additional research in order to effectively address the inquiry regarding the restricted drug survival of particular biologics. In light of the fact that research is currently being carried out on novel tiny compounds that can be taken orally, there is a high probability that the range of treatments that are currently available for psoriasis may soon expand. A specific target for treatment, ROR $\gamma$ t, is the target of these molecules, which are designed to block it. It is still the case that the use of more general medications is the primary method of systemic therapy for psoriasis in many clinical settings around the world, despite the fact that targeted treatments are both effective and safe. For the most part, this is due to the fact that there are economic considerations, dose requirements, and the possibility of undesirable effects. Not only in terms of the

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likelihood of illness, but also in the characterization of various forms of psoriasis based on cytokine signatures, and in the identification of indicators for medication response, there is a need for further clarification regarding the involvement of genetics. When it comes to chronic inflammatory diseases with a Th17 leaning, psoriasis is without a doubt the most extensively researched and effectively curable condition that is currently available. The categorization of psoriasis patients into the most appropriate medication and the long-term effectiveness of our therapies are the primary challenges that need to be addressed once the majority of patients have achieved outstanding clinical responses using the therapeutic methods that are currently available.

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