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Psoriasis

An overview and update

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40(3):p 23-26, March 12, 2015. | 10.1097/01.NPR.0000453651.30695.43

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Psoriasis: An overview and update

By Karen Limaye, MSN, FNP-C, DCNP

Psoriasis is a hereditary, T helper cell 1 mediated inflammatory papulosquamous disease. It is most likely transferred dominantly with variable penetrance. It is generally believed that an environmental trigger acts as an antigen-presenting cell to activate 1 of over 30 psoriasis susceptibility genes. This is most evident in acute-onset guttate psoriasis, which is associated with *Streptococcus* infection.

Psoriasis is more common in people of European and Scandinavian decent and affects 2% of the global population. The prevalence appears to be greater in countries with higher latitudes. According to the National Health and Nutrition Examination Survey, 3.2% of the U.S. adult population is afflicted with psoriasis accounting for 7.2 million people.[1] The genetic variation in the immune pathway may help to explain the various psoriasis presentations and differences in severity. Environmental factors contribute to both disease predisposition and exacerbations. For example, smoking exacerbates psoriasis by increasing Th17 cell levels and may hinder treatment response.[2] Patients with psoriasis typically experience exacerbation of their disease during life stress, some illnesses, and with certain medications. Beta-blockers, antimalarial agents, and lithium have all been documented to exacerbate psoriasis. The use of systemic corticosteroids in patients with psoriasis can abate the disease, but once the corticosteroids are discontinued, patients frequently rebound with an upsurge of their psoriasis, often with more refractory forms of psoriasis, such as erythrodermic or pustular psoriasis.[3] For this reason, systemic corticosteroid use is not advised for patients with psoriasis.

Patients with psoriasis are at a greater risk than the general population for developing heart disease, diabetes, and cancer.[4,5] Current recommendations advocate that patients with psoriasis be screened for metabolic syndrome and cardiovascular risk factors. Elevated levels of free fatty acids seen in psoriasis patients contribute to increased tumor necrosis factor-alpha (TNF-alpha) and interleukin-6 (IL-6), leading to impaired glucose tolerance and apoptosis of pancreatic beta-islet cells, which increase the risk of type 2 diabetes and metabolic syndrome.[4,5] An increase in C-reactive protein due to chronic inflammation in the skin and/or joints in psoriasis patients is thought to contribute to atherosclerosis, which is based on inflammation.[5] Patients with severe psoriasis are at greatest risk, and a stronger association exists with psoriatic arthritis.[2,6,9]

A recent article by Orgaz-Molina and colleagues found a positive association between decreased 25-hydroxyvitamin D serum levels and metabolic disease in cutaneous psoriasis patients.[8] These findings suggest that psoriasis patients would benefit from oral supplementation with vitamin D, which possesses anti-inflammatory properties.[8] There have also been some case reports of improvement in cutaneous psoriasis as well as a decrease in cholesterol with vitamin D supplementation. Of note, systemic treatment for psoriasis without vitamin D supplementation did not improve 25-hydroxyvitamin D levels, and there is no current dosage recommendation for patients with psoriasis.[8]

Types of psoriasis

Chronic plaque psoriasis is the most common morphological variant of psoriasis. It presents with well-demarcated erythematous plaques that are covered with a thick, silvery/white adherent scale. Scraping of the scale frequently causes pinpoint bleeding (Auspitz sign) and is pathognomonic for psoriasis (see *Chronic plaque psoriasis*). Chronic plaque psoriasis tends to be symmetrical, and it most often affects the occiput of the scalp, the postauricular space, the elbows, knees, shins, and gluteal cleft. It can be confined to a minute area or be widespread, involving a considerable percentage of the body surface area (BSA). Disease severity can also differ among individual patients, with oscillations in the course throughout the lifespan.

Inverse psoriasis presents as smooth, erythematous, well-demarcated patches or plaques in skin folds that may have a slightly macerated surface. These areas include the axillae, the inframammary, abdominal, genital, and retroauricular folds as well as the perianal skin and gluteal cleft.

This column was developed in cooperation with the Nurse Practitioner Society of the Dermatology Nurses' Association.

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