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REVIEW

Nail psoriasis as a predictor of the development of psoriatic arthritis

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Abstract Psoriatic arthritis is a psoriasis-related spondyloarthropathy that occurs in 20–30% of patients with psoriasis. Various imaging studies have demonstrated that there is a considerable proportion of undiagnosed psoriatic arthritis among patients with psoriasis. Since early detection and treatment of psoriatic arthritis could, ultimately, allow the prevention of clinical and radiologic progression of the disease, there is the need to establish clinical indicators to detect this risk.

Nail psoriasis has been proposed as a predictor for the development of psoriatic arthritis. The inflammation involving the entheses, called enthesitis, is an early inflammatory change seen in psoriatic arthritis, and nail changes appear to result from the close relationship between the nail and the enthesis of the distal interphalangeal extensor tendon, one of the main entheseal compartments affected in psoriatic arthritis.

As skin lesions precede articular symptoms in more than 75–80% of patients with psoriatic arthritis, dermatologists may play a key role in the early detection and management of psoriatic arthritis.

PALABRAS CLAVE
Uña;
Psoriasis;
Artritis psoriásica;
Entesopatía;
Entesitis

Psoriasis ungueal como factor predictivo del desarrollo de artritis prosiásica

Resumen La artritis psoriásica es una espondiloartropatía relacionada con la psoriasis que aparece en un 20–30% de los pacientes con psoriasis. Varios estudios por imágenes han demostrado que hay una cantidad considerable de artritis psoriásica no diagnosticada entre los pacientes con psoriasis. Existe la necesidad de establecer indicadores clínicos que señalen el riesgo de desarrollo de artritis psoriásica, ya que la detección y el tratamiento temprano de la misma podría, en última instancia, permitir la prevención y la progresión clínica y radiológica de la enfermedad.

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Se ha propuesto la psoriasis ungueal como factor predictivo del desarrollo de la artritis psoriásica. La entesitis, inflamación de la entesis, es un cambio inflamatorio temprano observado en la artritis psoriásica, y los cambios en las uñas parecen ser el resultado de la estrecha relación entre la uña y la entesis interfalángica distal del tendón extensor, que es uno de los principales compartimentos entésicos afectados en la artritis psoriásica.

Los dermatólogos pueden desempeñar un papel clave en la detección temprana y en el manejo de la artritis psoriásica, ya que en más de un 75–80% de los pacientes con artritis psoriásica las lesiones de la piel preceden a la aparición de los síntomas articulares.

Introduction

Psoriasis is a chronic, systemic, inflammatory disorder, affecting 2–3% of the population worldwide.[1] Psoriatic arthritis (PsA) is a psoriasis-related spondyloarthropathy that presents with typical signs and symptoms of both psoriasis and arthritis and, like psoriasis, follows a chronic course.[2-4] An estimated 20–30% of psoriasis patients may develop PsA.[5,6] Imaging studies have demonstrated the existence of considerable number of patients with psoriasis and undiagnosed PsA, a reflection of the presence of subclinical arthritic disease in clinically normal joints.[7,8]

Persistent joint inflammation can lead to bone damage, and it is estimated that half of PsA patients develop irreversible joint lesions within the first few years of disease.[9,10] Therefore, PsA is a severe, erosive and deforming condition.[2]

PsA patients have an increased burden of disease, impairment in quality of life, and diminished functional capacity, all reflected in a lower general health state.[4,11,12] Overall, this results in great physical, psychological, and ultimately economic burden of the disease to the individual and society.[13] There is therefore a need to establish a clinical indicator to detect risk and ensure early diagnosis of PsA. Early detection and treatment of PsA could, ultimately, allow the prevention of clinical and radiologic progression of the disease. For this reason, predictors for the presence of subclinical PsA are of considerable clinical interest. If validated properly, such indicators may help identify patients with subclinical disease at risk of deterioration, and allow an early intervention.[2,4]

Nail changes are observed in about 40% of psoriasis patients, a percentage that increasers to about 80% in patients with PsA. Nail disease in psoriasis has long been proposed as a predictor for the development of PsA.[14–17]

Since skin lesions precede articular symptoms in more than 75–80% of patients with PsA, with a mean estimated delay of 10 years, there is a potential window of opportunity for the early diagnosis and management PsA.[2,4,18] This represents a unique occasion to document the clinical changes predictive of the development of PsA, or its subclinical presence.[19] As dermatologists usually see patients with psoriasis before arthritis develops, they are in a unique position to diagnose PsA in its earliest phase, by detecting the precocious silent alterations of the disease even before radiological signs and symptoms have become manifest.[20,21] The ultimate goal is early detection and appropriate treatment, avoiding disease progression and irreversible bone damage.

Psoriatic arthritis: clinical findings

PsA is a seronegative spondyloarthropathy, whose central defining feature is inflammation involving the entheses (enthesitis). PsA often presents in a characteristically asymmetrical manner, commonly involving the distal joints of the hands and feet. This specific distal joint affection points toward the presence of some factors, intrinsic to the target joint itself, which act as key drivers in the onset and perpetuation of the disease process.[20,22,23]

A common defining feature of PsA is the clinical presence of dactylitis, which represents inflammatory involvement (often with diffuse swelling) of the distal interphalangeal (DIP) joint. The DIP joint involvement begins as inflammation of the entheses, the main change in PsA. This perpetuated, chronic inflammatory process may ultimately culminate in joint cavity involvement, with osteolysis and periarticular new bone formation.[23]

With the purpose of creating a uniform and established definition of PsA, a Classification Criteria for Psoriatic Arthritis – the CASPAR classification – was introduced. This classification is found to be highly specific for the diagnosis of PsA (98.7%), and easier to use than other existing classification criteria. In this classification, diagnosis of PsA is supported by the combined presence of a certain number of clinical features, such as: (a) established inflammatory joint disease; (b) current psoriasis; (c) history of psoriasis; (d) family history of psoriasis; (e) dactylitis; (f) radiographic evidence of juxta-articular new bone formation; (g) negative rheumatoid factor, and (h) typical psoriatic nail dystrophy.[24] As suggested by these criteria, nail disease in PsA is given a prominent role in diagnosis, and is given an equal footing to other important clinical and radiographic criteria.

Entheses: the anatomical site of joint inflammation

Enthesis is the term used for the attachment site of ligaments, tendons, and joint capsules to bone. This anatomical structure appears to share microanatomical features with the skin, both assisting in the resilience to regional compressive and shear force applications, helping preserve tissue homeostasis.[25]