Risk Factors and Predictors of Psoriatic Arthritis in Patients with Psoriasis

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Abstract

The investigation of psoriatic arthritis on psoriasis patients and the optimization of the screening methods should be seen as a priority in the clinical practice due to the potential consequences involved in joint damage in psoriatic arthritis. It is already known the potential sequelae involved in joint damage in psoriatic arthritis and that they can be avoided by the identification of the disease’s predictors. Furthermore, the large range of psoriasis diagnosis and diagnosis of early stage of psoriatic arthritis should be reduced. In this review, we discuss recent literature with highlights about some predictive markers of early arthritis in patients with psoriasis.

Keywords: Psoriasis; Arthritis; Psoriatic

Introduction

Psoriasis (Pso) is an immune-mediated skin disease that results in epidermal hyperproliferation. The association of psoriatic lesions with typical joint involvement is called Psoriatic Arthritis (PsA) [1]. Due to the extent of joint damage, the optimization of the screening methods and the investigation of psoriatic arthritis in psoriasis patients have been a clinical priority. This also can be explained by the gap between the Pso diagnosis and the first symptoms of PsA, which could be up to 5 years [2,3]. The aim of this review is to highlight the best clinical literature evidence about the PsA predictors in patients with Pso.

Risk Factors and Predictors

Genetic factors: different cohorts identify genes as HLA-Cw*0602, HLA-B27, HLA-B38, HLA-B39, HLA-DR4, IL-23R, IL-12R, and TNF-238A +TNIP1 in association with the susceptibility to develop both diseases. Therefore, these genes are considered risk factors in the development of PsA [4-6]. Cases of PsA in the family should be considered as well [7].

A meta-analysis of genome wide association studies (GWAS) detected differences between the genetic architecture of Psa and PsC. There was found 10 regions associated with PsA and 11 associated with Pso [8]. Besides, variants in regions near to HLA C, TNFRSF9 and LCE3A genes were associated with an increased susceptibility to develop Pso, while variants near to IL23R and TNFAIP3 were more strongly associated with PsA. The human leukocyte antigen (HLA)-HLA-B and HLA-C - also seems to confer susceptibility to develop joint symptoms in Pso patients [9].

Environmental factors

No relation between development of PsA in Pso patients and alcohol users was found, neither patients submitted a physiological stress [10]. On the other hand, Pattinson et al identified that changing residence could be a risk factor [11]. According to some references, smoking can be a protector factor in the development of PsA [10-12]. Another study has shown that smoking speeds up the arthritis process in patients who does not have Pso [13]. Also, the obesity seems to be associated [13-15]. Soltani-Arabshahi et al identify that body mass index (BMI) is related to early development of arthritis and the PsA and patients with Pso. Recently, Ecer et al. has shown in a cohort study association between lower educational indexes and susceptibility to develop PsA in patients with Pso [12].

Woman

Although the woman has been identified as the higher risk of arthritis in patients with Ps [15], some literature shows that this risk is lower in pregnant women and those submitted to fertility treatments [16]. The exposure to female hormones also does not seems to be related with this susceptibility [10].

Immunologic factors

Thumboo et al. reported an increased risk of arthritis in patients with Pso using corticosteroids [16]. With respect to regarding immunization, Eder et al. found results that led them to do not consider immunizations as risk factors, although Patterson et al identified an association between rubella vaccine and PsA development [11]. Infections that need antibiotics could be a risk factor [10].

Location affection

Intergluteal or perianal psoriatic lesions are considered risk factors to the development to PsA, besides involvement of more than three different areas, scalp and nails and nail dystrophy [12,15,17]. The total length occupied by the psoriatic plaques is also a risk factor [17-19]. The PASI index also was related as a predictor to the development to PsA [20].

Trauma: trauma requiring clinical intervention is related to appearance of PsA in patients with Pso [10,11]. The same as report about Koebner phenomenon [10,11,15].

Conclusion

The onset of PsA can be marked by deformities and severe limitations due to the joint involvement. However, there are many...
methodological limitations in the risk study designs that difficult the external validation. It is important to identify the risk factors of the beginning of the disease, since the worst effects can be observed in the polyarthritis mutilans and axial disease. To characterize which factors can lead to early detection of joint involvement in patients with PsO, it is necessary to investigate in the cohorts with larger number of psoriatic patients. These results can help patients to have an individualized care and a more appropriate monitoring of disease's progress.

References