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Psoriasis Prevention: Reflections on Possible Interventions

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Abstract

Psoriasis is a common, long-term inflammatory condition which can be associated with significant comorbidities. Lifestyle behaviour change can be beneficial in the prevention of psoriasis and reduction of its severity. Several studies suggest that dietary restrictions and physical exercise may be useful interventions for the prevention of such a chronic skin disease, acting also as adjuvant treatments. Psoriasis, especially if severe, is associated with an increased risk of cardiovascular risk factors. Associated condition, such as alcohol use, smoking and other wrong lifestyle habits need to be identified, and quality control measures should be established in those patients.

Introduction

Psoriasis is a chronic, multifactorial inflammatory skin disease affecting 2-3% of the general population [1]. Apart from the well-known cutaneous manifestations, psoriasis is associated with a systemic inflammatory state which has been linked to significant comorbidities, such as metabolic syndrome, obesity, type 2 diabetes and cardiovascular diseases (CVD) [2,3]. This chronic condition has a negative impact on patients overall health and quality of life [4,5]. Indeed, it is well known the potential dramatic effect of the disease on patients physical, mental, social and financial aspects [5]. Once established, psoriasis is difficult to prevent. Correct lifestyle behaviours are essential in psoriasis management and well-designed interventions should be used to try to limit its impact and progression [6]. Several trials have shown that obesity is an independent risk factor for psoriasis development in both adult and pediatric populations [7-9]. Increased body mass index and waist circumference doubles the risk of getting psoriasis [8-12]. Indeed, the chronic production of pro-inflammatory cytokines, including tumor necrosis factor-α, monocyte chemoattractant protein-1, and interleukin-6 [4,13], associated with adiposity, may explain the increased risk of psoriasis among obese individuals. Therefore, adequate lifestyle measures, which may consist in reductions of the caloric intake, together with daily physical activity, represent the cornerstone of psoriasis prevention [14-17]. There is evidence that an energy-restricted diet, enriched in n-3 polyunsaturated fatty acids (PUFAs) and poor in n-6 PUFAs may be a good supplementary treatment for obese patients with psoriasis [18-20]. In addition, it has been demonstrated that weight loss may also help to improve the efficacy of systemic and biologic (which dosing regimen does not take into account patient's weight except for infliximab and ustekinumab) drugs in patients with severe psoriasis [21,22]. Recently, it has been shown that regular engagement in aerobic exercise training may positively influence psoriasis pathophisiology via adipose tissue mass and inflammatory molecules reductions as well as induced epigenetic changes, reducing the risk of development and/or outbreak of psoriasis [14]. Moreover, the protective benefits of physical activity on psoriasis could also be mediated through its effect on mood and psycho-emotional aspects; exercise decreases anxiety and stress, improves emotional well-being, and may be an effective treatment for depression [23] whose prevalence is high in psoriatic patients [24] which also frequently show very low life satisfaction [25]. Smoking, alcohol use and emotional stress are all recognized psoriasis risk and/or exacerbation factors, which may also influence the onset of cardiovascular and metabolic comorbidities [11,26-28]. Consequently, lifestyle behaviour change can be beneficial in the prevention and/or reduction of both psoriasis and cardio-metabolic comorbidities risk and severity. Given the importance of behavioural risk factors associated with the disease and its comorbidities, dermatologists should approach the disease as a systemic disorder, also addressing patients' lifestyle habits [29-31]. Moreover, for an effective management of psoriasis as well as to enable a global assessment of psoriasis as a long-term condition, including the prevention and treatment of its comorbidities, an integrated approach targeting both cutaneous and systemic inflammation, involving different specialists (dermatologists, rheumatologists, endocrinologists, etc), seem to be preferred to reduce the disease burden.

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