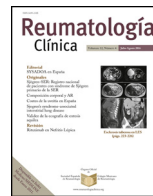




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Original Article

Effect of Weight Loss on Activity in Psoriatic Arthritis: A Systematic Review[☆]

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ABSTRACT

Objective: To evaluate the association between weight loss and changes in disease activity in patients with psoriatic arthritis (PsA).

Methods: We performed a systematic review of the literature, with searches in Medline, Embase and Cochrane Central Library from inception until April 2015. Inclusion criteria: (1) randomized controlled trials (RCT); (2) PsA patients; (3) interventions were any intervention aimed at weight control; and (4) a PsA activity-related outcome measure was evaluated. Risks of bias were assessed by the Cochrane Collaboration scale.

Results: Of the 215 articles identified, only 2 RCT met the inclusion criteria, 1 in abstract format. Both showed moderate risk of bias. Patients who managed to lose weight-by any method-had better results in terms of activity and inflammation. The percentage of weight loss correlated moderately with changes in inflammatory outcomes.

Conclusion: Weight loss in PsA could be associated with less inflammation; however, the evidence to support this is limited.

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Efecto de la pérdida de peso en la actividad en artritis psoriásica: una revisión sistemática

RESUMEN

Objetivo: Evaluar la asociación entre la pérdida de peso y cambios en la actividad en pacientes con artritis psoriásica (APs).

Métodos: Se llevó a cabo una revisión sistemática en Medline, Embase y Cochrane Central desde el inicio hasta abril del 2015. Criterios de inclusión: 1) ensayos clínicos aleatorizados controlados (ECA); 2) pacientes con APs; 3) cualquier intervención encaminada al control de peso, y 4) evaluación de la actividad de la APs. Se evaluaron los riesgos de sesgos según la escala Cochrane.

Resultados: De 215 artículos identificados, solo 2 ECA cumplieron los criterios de inclusión, uno de ellos en formato abstract. Ambos tenían riesgos de sesgos moderados. Los pacientes que lograban perder peso, por cualquier método, mostraban menores niveles de actividad e inflamación. El porcentaje de pérdida de peso correlaciona moderadamente con cambios en medidas de inflamación.

Conclusión: La pérdida de peso en APs podría asociarse a menor inflamación, si bien la evidencia que lo apoya es limitada.

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Introduction

The prevalence of overweight and obesity in persons with psoriasis and psoriatic arthritis (PsA) is greater than that of the general population.^{1,2} In turn, it has been seen that obesity can be a risk factor for the development of psoriatic disease,³⁻⁶ as well as for greater disease activity and severity. This could be explained by the proinflammatory state provoked by the accumulation of adipose tissue, with changes in the expression of cytokines, such as tumor necrosis factor (TNF) α , interleukin (IL) 6 and adipokines (leptin, adiponectin).⁷⁻¹⁰ Patients with psoriasis who are also obese have a very serious skin disease and have a poorer response to treatments.^{11,12} In patients with PsA, obesity also predicts a poor joint response to treatment, whether or not the latter was biological.^{13,14} It has been found that caloric restriction reduces the levels of inflammatory cytokines in obese individuals^{15,16} and can considerably improve psoriasis¹⁷; however, its effect on arthritis is not clear. In the attempt to support a series of recommendations for the management of PsA, we decided to conduct a systematic review, the purpose of which was to evaluate the effect of weight loss on disease activity and the response to treatment in PsA patients.

Methods

We carried out a systemic literature review. For this we designed a search strategy in the bibliographic databases MEDLINE (from 1960), EMBASE (from 1980) and the Cochrane Central Library from inception to April 2015. The search included MeSH terms and free text (Table 1). The search was limited to studies involving humans and to studies published in English and Spanish. Moreover, a manual search was performed using the bibliography of the included articles and from rheumatology meetings held in the United States and Europe over the preceding 2 years.

Two reviewers (RA and LC) independently examined the titles and abstracts of the articles retrieved for the selection criteria. We then recorded the data of the selected studies.

We included only: (1) randomized controlled trials (RCT), in which (2) the population to be treated consisted of PsA patients; (3) the intervention was any measure aimed at weight control (diet, exercise, prescribed drugs, surgery, etc.); (4) the latter be compared with a group in which no intervention or control was introduced;

Table 1
Search Strategy.

#1 "psoriatic arthritis"
#2 "psoriatic arthritis"/exp
#3 #1 OR #2
#4 "diet"
#5 "weight control"
#6 "weight reduction"
#7 "weight reduction"/exp
#8 "antiobesity agents"
#9 "antiobesity agents"
#10 "anti obesity agents"
#11 "metformin"
#12 "sibutramine"
#13 "orlistat"
#14 "xenical"
#15 "meridia"
#16 "glucophage"
#17 "low calorie diet"
#18 "low fat diet"
#19 nutrition\$ AND (intervention\$ OR education\$)
#20 diet\$ AND (intervention\$ OR education\$)
#21 "weight loss" AND (intervention\$ OR education\$)
#22 weight AND reduction
#23 "weight reduction"/exp
#24 (#4 - #23) OR
#25 #3 AND #24

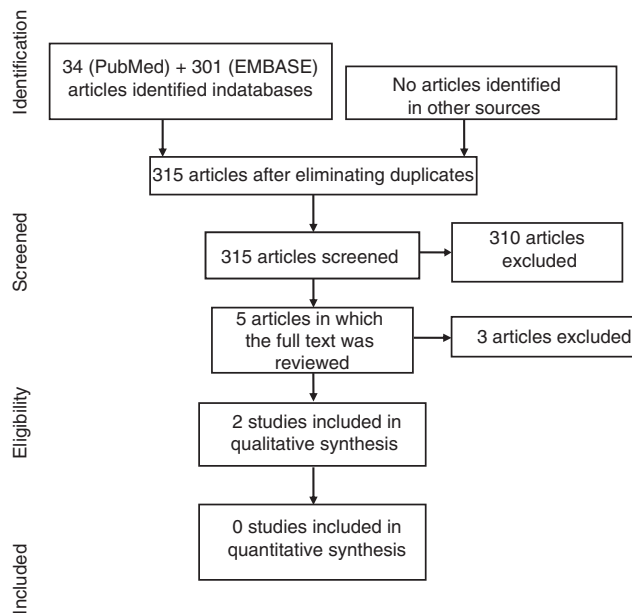


Fig. 1. Flowchart documenting the search and selection of studies.

and (5) the implementation of some measure of evaluation of the activity, either peripheral (66/68 joint count, Disease Activity Score in 28 joints [DAS28], DAS, visual analogue scale (VAS), enthesitis index) or axial (Ankylosing Spondylitis Disease Activity Score, Bath Ankylosing Spondylitis Disease Activity Index, Bath Ankylosing Spondylitis Functional Index, Bath Ankylosing Spondylitis Metrology Index), acute-phase reactants (erythrocyte sedimentation rate [ESR] and C-reactive protein [CRP]) or imaging, or other efficacy scores documented in the article.

All of the articles obtained were reviewed in detail with the aid of ad hoc designed data collection sheets. We gathered all the data on the description of the sample and on the specific results of weight control on inflammatory activity. We likewise evaluated the risk of biases using the domains proposed by the Cochrane Collaboration.¹⁸

We performed a qualitative analysis of the information collected for type of study and the population being studied, for quality and specific results, as well as a qualitative evaluation of the heterogeneity.

Results

In the diagram in Fig. 1 we describe the results of the search. In the search strategy, we identified a total of 215 articles, 5 of which were selected for a detailed review after the exclusion of 210 references on the basis of their title and abstract. Finally, 3 articles were excluded (Table 2 specifies the excluded studies and the reasons for their exclusion).

Table 3 shows the data on the 2 articles that were ultimately included in the analysis.^{13,19} There were 2 RCT, 1 of which had the format of an abstract. The risks of biases are moderate in the study by Di Minno et al. and high in that of Abou-Raya et al., in the latter due to lack of information.

In the study of Di Minno et al.,¹³ patients with PsA and obesity were randomized to receive a hypocaloric diet based on an intake of fat of 30%–35% of the total daily intake and an increase in fiber and fish to at least one day a week, or a free diet, receiving certain nutritional advice. At the same time, and given the lack of symptomatic control, the patients, who had not taken biological therapy before commencing the study, began treatment with anti-tumor necrosis factor (TNF) drugs. In all, 58.7% lost weight ($\geq 5\%$), which

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