Effectiveness of different cryotherapies on pain and disease activity in active rheumatoid arthritis. A randomised single blinded controlled trial

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Abstract

Objective: Local cryotherapy is used to relieve pain and inflammation in injuries and inflammatory conditions. Whole-body cryotherapy is an extreme method administered at -110 degrees C for 2 to 3 minutes. The aim of the study was to compare the effect of cryotherapies on pain and inflammation in patients with rheumatoid arthritis (RA).

Methods: Sixty patients with active seropositive RA were recruited in a randomised controlled single-blinded study to receive whole-body cryotherapy at -110 degrees C, whole-body cryotherapy at -60 degrees C, application of local cold air at -30 degrees C and the use of cold packs locally. In the final analysis, the last 2 groups were pooled. The patients had 2-3 cryotherapy sessions daily for one week plus conventional physiotherapy. Clinical and laboratory variables and patient's and physician's global assessments were used to assess the outcome. Disease activity was calculated by DAS.

Results: Pain decreased in all treatment groups, most markedly in the whole-body cryotherapy (-110 degrees C) group. DAS decreased slightly with no statistically significant differences between the groups. No serious or permanent adverse effects were detected. Six of 40 patients (15%) discontinued the whole-body cryotherapy.

Conclusion: Pain seemed to decrease more in patients in the whole-body cryotherapy at -110 degrees C than during other cryotherapies, but there were no significant differences in the disease activity between the groups. However, cryotherapy at -110 degrees C is expensive and available only in special centers and may have minor adverse effects. Based on our results, whole-body cryotherapy at -110 degrees C is not superior to local cryotherapy commonly used in RA patients for pain relief and as an adjunct to physiotherapy.