Crenobalneotherapy in spondylarthropathy, a systematic review

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The purpose of this study is to find and summarize the evidence for crenobalneotherapy in spondylarthropathies.

Method

A bibliographic analysis was performed independently by 2 reviewers, on following databases: pubmed by medline (AB + RF), SCOPUS (AB), PEDRO database (RF), EMBASE (AB), Cochrane database (AB + RF), WEB OF SCIENCE (AB). The Keywords were: Ankylosing spondylitis AND Hydrotherapy OR Balneology OR Balneotherapy OR Crenotherapy OR Mud OR Water exercises OR Radon OR Spa therapy. Discrepancies between the reviewers were solved by consensus.

Quality of evidence was performed with 3 checklists. Internal validity by CLEAR NTP: 10 items evaluating selection bias; performance bias, detection bias and attrition bias. External and statistical validity was evaluated by personal checklists.

Heterogeneity and publication bias was evaluated by the empirical test of Sutton (Sutton BMJ 2012).

Results

We found 10 trial (11 articles) representing 500 patients. 2 have high internal validity (n=159), 1 middle validity (n=24) and 7 low internal validity (n=317). There is a possibility of unpublished negative results. The result of one of the studies is not coherent with the others.

In ankylosing spondylitis, with high internal, external and statistical validity the study of Franke et al. (Rheumatology International 2013) found no difference between radon bath and tap water bath in patients with AS, all receiving a multicomponent treatment program. With a high validity, the study of Van Tubergen et al (Arthritis 2001 & 2002) shows a significant improvement in QOL for the AS patient groups receiving spa treatment in Austria and Netherland when compared to patients following home exercise program alone. BASFI, pain and global well-

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being are improved more in the Austrian group than the control group lasting 3 months. And the spa therapy is cost effective.

With a low risk of bias (except the waiting list design) but low statistical power (12 patient in each group) the study of Cozzi shows a clinical relevant improvement in BASDAI 20 & BASDAI 50 for patients with inflammatory bowel disease associated spondylarthropathy treated with mud pack & hot bath in mineral water. There is a surprising degradation of the control group, which can be explained by a deception bias. Other trials performed on patients with AS & psoriatic arthritis have low internal validity.