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Editorial

Current role for spa therapy in rheumatology



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Spa therapy is a multifaceted treatment that uses mineral water taken directly from a natural source and delivered rapidly to the point of use. Delivery is via diverse modalities of showers, baths, pools, and mists. The water can be mixed with various types of clay, which is then applied to the skin as peloids or cataplasms. Finally, the mineral water can serve as a vector for massage, as with massage jets.

Spa therapy is claimed to add beneficial effects to those produced by physiotherapy (massages and supervised mobilization in a pool) and hydrotherapy (pool, baths, showers, and saunas). In France, both the nature of the interventions and the training of the personnel are defined by agreement between the spa and the statutory health insurance agency. Session durations and temperatures vary across spas: 10 to 30 minutes at 33 °C to 36 °C for pool therapy; 10 to 20 minutes at 38 °C for baths and showers; 10 to 20 minutes and 42 °C to 45 °C for mud applications; and 10 to 20 minutes at adjustable temperatures of 37 °C to 44 °C for sauna sessions.

1. Methodology

Long viewed as an alternative treatment that owed little to scientific evidence, spa therapy was, on the contrary, among the earliest evaluated nonpharmacological treatments. Thus, randomized controlled trials were already available in the late 1980s in international peer-reviewed publications. As with other physical treatments, patient blinding [1] and the development of a convincing placebo are major challenges, leaving room for a strong influence of a potential Hawthorne effect.

Some randomized trials compared spa therapy to either no treatment or continued usual treatment. This design carries a risk of deception bias and frequently increases patient attrition in the control group. To induce patients to stay in studies of spa therapy, Collin et al. suggested offering the spa treatment to the controls at the end of the study [2]. Deception bias was not attenuated by this

method. Other trials compared spa therapy to a validated treatment or to the standard of care. Spa therapy was then viewed as effective only if it proved superior over the comparator. Finally, some trials involved randomizing the patients before seeking their informed consent, as described by Zelen [3], to obtain at least partial patient blinding, thereby limiting deception bias. The optimal methodology remains to be devised. One option for further minimizing bias might consist in stratifying the randomization scheme based on patient preferences and expectations [4].

2. Results of the main clinical trials

Among studies of chronic low back pain, the best are, oddly enough, among the earliest [5,6] (Table 1). The more rigorous design and larger sample sizes of these early studies avoided overestimation of the treatment effect [7]. Spa therapy significantly improved both pain and functional impairments after 3 and 6 months. Concomitantly, medication consumption diminished. Range of motion of the lumbar spine was not significantly different between the groups. In one study, a patient education program delivered during a 3-week spa treatment was better in alleviating fears and deleterious beliefs compared to simple patient information [8]. The IMuRa randomized blinded trial of hydrotherapy and rehabilitation at German and Austrian spas characterized by naturally radon-rich water showed no difference between water with versus without radon [9].

A larger number of studies are available for lower limb osteoarthritis, and several recent studies have a low risk of bias [9–12]. In a multicenter randomized controlled trial done at three major spas in France [12], randomization was performed according to Zelen's design. The results established that combined spa therapy and home exercises were superior over home exercises alone. Pain, function (WOMAC index), and opinions of the physician and patient were improved after 3, 6, and 9 months. These gains were clinically relevant to the patients. No significant differences were found for quality of life or medication use; instead, analgesic use was slightly higher in the spa therapy group. The above-mentioned IMuRa trial of spa hydrotherapy and rehabilitation [9] showed no difference between water with and without radon for pain relief (primary outcome) but found better WOMAC index values with radon after 6 months. Two studies done by the same group in patients with knee and hand osteoarthritis, respectively, compared continued usual treatment in patients on waiting lists for spa therapy to mud bath and pool therapy at a spa [11,13]. Spa therapy was associated with significantly better outcomes for pain, WOMAC index components, use of analgesics and nonsteroidal anti-inflammatory drugs,

Table 1
Main clinical trial in spa therapy.

Study	Year	Diagnosis	Spa therapy	Type of control intervention	Sample size	Results		
						<i>P</i> < 0.05	<i>P</i> > 0.05	Follow-up (months)
Fioravanti, 2012	2012	Knee OA	12 sessions over 2 weeks, 20 min baths at 38° in the mineral water	Standard treatment (waiting list)	60	Pain, WOMAC, Lequesne, AIMS, SF36		3
Fioravanti, 2015	2015	Knee OA	12 sessions over 2 weeks, 20 min baths at 38° in the mineral water, application of mud at 42° for 20 min + usual treatment	Standard treatment (waiting list)	105	WOMAC, SF12 physical component, EQ5D, EQ5D VAS	SF12 physical component	6
Forestier, 2010	2010	Knee OA	Home exercises + 18 applications of mud at 45° for 15 min, steam at 38° for 10 min, underwater massages for 10 min, exercises in water at 35° for 25 min	Home exercises	462	Pain, WOMAC, physician's opinion, patient's opinion	Medication use, SF36	9
Fioravanti, 2014	2014	Hand OA	12 mud applications and baths in the mineral water + standard treatment	Usual treatment	60	Functional index, HAQ, medication use	Pain, morning stiffness, SF36	6
Graber, 1998	1998	Hand OA	18 sessions of Berthollet's technique at 40° for 10 min	18 applications of ibuprofen gel	116	Topographic index, grip strength, physician's opinion, patient's opinion, Dreiser's index	Swollen joint count, medication use	6
Donmez, 2005	2005	Fibromyalgia	12 days of spa therapy, mineral water pool (at 36 °C for 20 min) everyday and high-pressure jet, mineral water shower at 37 °C, 15-min massages	Usual treatment	30	FIQ, pain, tender points	Sleep, fatigue, gastrointestinal disorders, anxiety, depression, patient's opinion	6
Zijlstra, 2005 and 2007	2005	Fibromyalgia	3-hour sessions for 15 days: hammam, seaweed packs, underwater massages, hydromassage pool, underwater jets, mobilisation in a pool + group exercise sessions + patient education program	Patient education program	132	SF36 physical component, FIQ, McGill Pain questionnaire, patient's opinion, physical activity, number of tender points	SF36 mental component, Beck depression inventory, sleep	3
Constant, 1995	1995	Chronic low back pain	6 days of spa therapy per week for 6 weeks	Usual treatment (waiting list)	126	Pain duration, pain severity, hand-floor distance, Schöber, patient's opinion, Rolland-Morris questionnaire, use of NSAIDs and analgesics	None	6
Constant, 1998	1998	Chronic low back pain	6 days of spa therapy per week for 6 weeks, 10 min baths at 36 °C with underwater jets, 15-min applications of mud at 45 °C, and 20-min underwater massages at 36 °C	Usual treatment (waiting list)	224	Duke health profile, hand-floor distance, pain intensity and severity, Rolland-Morris questionnaire, patient's opinion	Schöber's index	3
Coudeyre, 2005 and Gremeaux, 2012	2005	Chronic low back pain	6 days of spa therapy per week for 6 weeks + education (information on managing back pain, reconditioning exercises)	Spa therapy 6 days a week for 3 weeks + patient education	360	FABQ, patient satisfaction	Pain, Quebec Back Pain Disability scale	6

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