

Homotoxicology – Homeopathy with a “twist”

Given that controlling animals’ pain and suffering is a cornerstone to practicing good medicine, questions naturally arise about which interventions will offer optimal analgesia with the fewest side effects. Physical medicine treatments such as acupuncture and massage offer clear benefits for musculoskeletal pain. Biochemical alternatives based on herbs and supplements are gaining recognition due to their safety, effectiveness, and overall tolerability. A third approach, homeopathy, maintains a loyal following. In terms of homeopathy’s cousin, homotoxicology, one product can boast a growing evidential foothold. This star player carries the trade name “Traumeel®”.

Traumeel®, developed in Germany by Heel Inc. approximately eighty years ago, ranks among the most popular alternative medicines in Germany, bought by millions.¹ It comes in tablet, ointment, gel, and oral solution formulations. Each contains low levels of twelve botanical substances (such as marigold, witch hazel, chamomile, comfrey, echinacea, and St. John’s wort) and even lower amounts of two minerals (Hahnemann’s soluble mercury and calcium sulfide). Each preparation has reportedly been studied in at least one randomized, controlled, double-blind trial, although independent replications remain undone.² The box plainly displays the terms “anti-inflammatory” and “analgesic” on the front panel. The package insert resembles those typically found accompanying pharmaceuticals – tiny print on thin white paper, describing the contents in detail, its clinical pharmacology, indications and usage, contraindications, precautions, interactions, etc. Indications include “the temporary relief of symptoms associated with inflammatory, exudative, and degenerative processes due to acute trauma (such as contusions, lacerations, fractures, sprains, post-operative wounds, etc.), repetitive or overuse injuries (such as tendonitis, bursitis, epicondylitis, etc.), and for the temporary relief of minor aches and pains associated with such conditions....”³ Other than producing a low risk of allergic reactions (for individuals hypersensitive to botanicals from the Compositae family), the company maintains that Traumeel® poses no known hazards to the renal, hepatic, gastrointestinal, cardiovascular, or central nervous system.

Its mechanism of action remains uncertain. Because the active ingredients supposedly fail to inhibit arachidonic acid metabolism, cyclo-oxygenase and lipo-oxygenase enzymes remain largely unaffected. This then practically eliminates concerns about interactions or additive effects with non-steroidal anti-inflammatory drugs. Heel Inc. cites company data that attributes the benefits of Traumeel® to its capacity to alter neuropeptide levels, inflammatory mediator

¹ Porozov S, Cahalon L, Weiser M, Branski D, et al. Inhibition of IL-1 β and TNF- α secretion from resting and activated human immunocytes by the homeopathic medication Traumeel ® S. *Clinical & Developmental Immunology*. 2004;11(2):143-149.

² Ernst E and Schmidt K. Homotoxicology – a review of randomised clinical trials. *Eur J Clin Pharmacol*. 2004;60:299-306.

³ Anonymous. Traumeel® package insert. Manufactured by Heel Inc. 10421 Research Road SE. Albuquerque, NM 87123. More information at www.HeelUSA.com.

release from macrophages, and oxygen radical release by activated neutrophils.⁴ A study published in 2004 in *Clinical and Developmental Immunology* reported that Traumeel® inhibited, in a unique dose-dependent fashion, the release of the pro-inflammatory cytokines IL-1 β , TNF- α , and the chemokine IL-8 *in vitro*. That is, Traumeel® affected the secretion of cytokines and chemokines from mobile leukocytes or resident gut epithelial cells in an *inverse* dose-response pattern. Concentrations explored in this investigation closely resemble those found effective *in vivo* for chemotherapy-induced stomatitis.⁵

Being a fixed combination remedy, however, rather than an individual substance, Traumeel® differs from classical homeopathic prescriptions and technically resides in the category of homotoxicology. Many practitioners employ the remedies interchangeably, but important differences exist, both conceptually and in the remedies themselves.

Both homeopathy and homotoxicology were brainchildren of German physicians. Both approaches involve the administration of remedies derived from plant, animal, or mineral sources that have undergone serial dilution and succession, in accordance with the rules of homeopathy. The practice of homeopathy originated in the 18th century, developed by Samuel Hahnemann. Two hundred years later, in the early 20th century, the German physician, Hans Reckeweg invented homotoxicology, inspired by some of the principles of homeopathy, but taking the views of health and disease in a different direction. Hahnemann viewed disease as an upset of an individual's vital force, which, as a result of this disturbance, caused the patient to experience certain symptoms. By giving extremely small quantities of substances which in larger amounts could cause similar symptoms, Hahnemann reasoned that this disturbance would be rectified, the vital force would be reinforced, and the patient would become well. This principle and adage that "like cures like" formed the basis of homeopathy. It also gave the discipline its name, with "homeo-" meaning same, or similar, and "-pathy" meaning disease, or suffering.

Homotoxicology's Reckeweg instead attributed diseases to toxins, acquired either by endogenous or exogenous means. Symptoms arose as a consequence of the body's innate defense mechanisms responding to these toxins. Homotoxicologic remedies supposedly support the "greater defense system"⁶ – a system wide network that allows patients to rid themselves of the offending agents.

⁴ Wagner H. Untersuchungbericht über immunologische und enzymchemische Wirknachweise durchgeführt mit dem Injektionspräparat Traumeel®. Data on file, Heel GmbH, Baden-Baden, Germany.

⁵ Oberbaum M, Yaniv I, Ben-Gal Y, Stein J, et al. A randomized, controlled clinical trial of the homeopathic medication TRAUMEEL S® in the treatment of chemotherapy-induced stomatitis in children undergoing stem cell transplantation. *Cancer*. 2001;92:684-690.

⁶ Ernst E and Schmidt K. Homotoxicology – a review of randomised clinical trials. *Eur J Clin Pharmacol*. 2004;60:299-306.

Homeopathy and homotoxicology also differ in their levels of dilution in their remedies. The concentration of botanicals in a product like Traumeel® generally exceeds the levels found in most homeopathics. This calls into question whether one should actually regard homotoxicologic remedies as weak pharmacologic mixtures.⁷ In other words, a common argument against homeopathy holds that most mixtures contain substances diluted past the point where pharmacologic activity is possible.⁸ Homotoxicologic products like Traumeel®, instead, may be acting via standard biologic principles. In their review of randomized clinical homotoxicologic trials, Ernst and Schmidt claim that both Traumeel® ointment and oral rinse contain herbal extracts present in non-homeopathic dilutions.⁹

Furthermore, Ernst and Schmidt¹⁰ cite potential biases in all studies included in their review, as they were unable to exclude sponsor bias in all of the trials. Also, in nearly half of the trials accepted controlled trials, at least one of the authors worked for the manufacturer. According to these authors, most articles failed to declare conflicts of interest, and several articles appeared in journals linked in some way to the manufacturer. Responses to these criticisms disputed claims of bias but generally agreed that more research needs to be done. This holds especially true in the veterinary profession where, if a homotoxicologic approach such as Traumeel® actually could withstand rigorous scientific scrutiny when tested in veterinary patients, it could serve as an important and low-risk adjunctive analgesic.

⁷ Ernst E and Schmidt K. Homotoxicology – a review of randomised clinical trials. *Eur J Clin Pharmacol.* 2004;60:299-306.

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