Biomedical Therapy

Chronic Inflammation

• Biomodulation of Osteoarthritis
• Lumbosacral Pain Syndrome – A Case Study
## Contents

**In Focus**
- Biomodulation of Osteoarthritis ........................................ 4

**What Else Is New?** .......................................................... 8

**Specialized Applications**
- Biopuncture Protocols for the Treatment of Chronic Inflammatory Disorders ........................................ 10

**Refresh Your Homotoxicology**
- Movement and the Matrix: The Importance of Biomechanical Signals in Matrix Remodeling ..................... 13

**Around the Globe**
- Evidence-Based Homeopathy – More Than Results of Double-Blind Studies! ........................................ 16

**Marketing Your Practice**
- Getting Organized ................................................................ 18

**New Perspectives**
- Sulfur in Health and Disease: A Hypothesis on Sulfur Intoxication ................................................ 20

**From the Practice**
- Whiplash – Acute Inflammation Becomes Chronic .......... 24
- Lumbosacral Pain Syndrome ................................................. 25

**Making of ...**
- Suis-Organ Products in Antihomotoxic Medicine ............ 26
A Holistic Approach to Chronic Inflammation

Dr. Alta A. Smit

There is no longer any question that chronic inflammation is the common denominator in almost all chronic illnesses, including systemic diseases such as arteriosclerosis and metabolic syndrome. In this issue, though, we examine chronic inflammation’s role in disorders of the structured connective tissue of the musculoskeletal system. Such disorders fall into the next to last column of the Disease Evolution Table, i.e., the degeneration phase. We cannot embark on this journey without venturing into the fascinating world of the extracellular matrix. Although long known to practitioners of biological medicine as the crux of cell and organ health, it is now also being recognized by mainstream medicine. In particular, the molecular basis of matrix remodeling – after injury and as a normal physiological process – is under increasing scrutiny. This anabolic/catabolic balance depends on delicate interactions among the immune, endocrine, vascular, and nervous systems, so the complex multitarget interventions available to bioregulatory medicine are especially suited to restoring the balance. Dr. Martin Plotkin, an orthopedic surgeon and co-author of the focus article, uses such medications extensively in his practice. The focus article concentrates on the modern pathophysiology of cartilage degeneration, but as connective tissue uses the same mechanisms in both structured and nonstructured matrix, the story becomes fascinating once we examine the effects of mechanical forces on matrix remodeling (see Refresh Your Homotoxicology). Antihomotoxic medicines offer a holistic approach to disorders of the musculoskeletal system, and case studies and protocols demonstrate the practical applications. Dr. Dennis van Aswegen, D.C. speaks out of long experience with such disorders in two cases from his practice. Dr. Edgar Estrada introduces the concept of sulfur “intoxication” and highlights a form of suppression that has not yet been widely recognized. Dr. Peter Smith reports from the LIGA conference in Oostend, Belgium. Lastly, Dr. Wilfried Stock continues the Making of … series with the suis organs, part 2 – an article that is well-placed in this issue, given that organ support is one of the main pillars of antihomotoxic treatment in the degeneration phase.

Alta A. Smit, MD

Reference:

**Introduction**

Osteoarthritis (OA) is a chronic, disabling condition that affects synovial joints. Its pathogenesis involves multiple etiologies, including mechanical, genetic, and biochemical factors. OA is generally described as “non-inflammatory” arthritis in contrast to rheumatoid arthritis, but this is increasingly recognized as a misnomer, since inflammation does indeed contribute to both the symptoms and the progression of OA.\(^1\) Morning or inactivity stiffness is a common symptom in OA, but acute inflammatory flares with all the clinical signs (redness, warmth, swelling, and further loss of function) are also common in OA patients.

*Figure 1: Degradation and repair in the matrix. In osteoarthritis, the catabolic/anabolic rhythm is disturbed.*

From the homotoxicological perspective, OA falls into the degeneration phase on the Disease Evolution Table and shares many of the characteristics of degenerative disease processes, namely, chronic inflammation accompanied by the release of dangerous free radicals such as peroxynitrite, disturbance of the normal cycle of degeneration and repair, and disturbance of angiogenic balance in the direction of inappropriate vascularization.

**Inflammation in osteoarthritis**

The effects of subclinical chronic inflammation in OA are now increasingly being recognized.\(^2\) The onset of acute inflammation is generally sudden, with the above-mentioned symptoms developing in a matter of minutes or hours. Neutrophils are the most abundant cells and proinflammatory cytokines such as IL-1, TNF-\(\alpha\), and IL-8 are the most prominent. In contrast, chronic inflammation develops over a longer period of time and may persist for weeks, months, or years. Markers of chronic inflammation such as C-reactive protein (CRP) may be elevated in patients with OA and may be mediated by IL-6, which is the major cytokine secreted by macrophages. IL-6 may also play a role in angiogenesis, which is another factor contributing to the pathology of OA (see below).

The outcome of acute inflammation is elimination of the irritation, followed by restoration of the tissues to their original state. In chronic inflammation, on the other hand, inflammation and repair occur concurrently, and the joints remain...
abnormal even after the inflammation subsides. In chronic inflammation, the cells that predominate are macrophages and often lymphocytic infiltrates. Chronic inflammation can therefore be seen as a misguided attempt on the part of chondrocytes and other cells to eliminate damaged tissue and to effect repair.

**Anabolic/catabolic imbalance**

Oscillation between degradation and repair is a normal occurrence in the matrix. Although the extracellular matrix is the functional unit in this process, homeostasis is affected by chondrocytes. Matrix metalloproteinases (MMPs) are stimulated by inflammatory cytokines and matrix degradation products to induce degradation of older or damaged tissues and are counterbalanced by a number of growth factors, notably also members of the TGF-β family, Bone Morphogenetic Proteins (BMPs), which reciprocally inhibit the actions of the MMPs and therefore induce tissue healing. This catabolic/anabolic oscillation is of vital importance in normal tissue integrity. When the process is disturbed (due to continuous tissue damage, either by mechanical stressors or toxins) or the body’s ability to trigger repair reduced (due to either a deficiency of growth factors or an inability to respond to them, as is seen in old age), an overactive catabolic/anabolic cycle results (see Figure 1).

To better understand cartilage destruction, at least inasmuch as it is mediated by chondrocytes themselves (sometimes called chondrocytic chondrolysis), we must study the molecular mechanisms that disrupt the balance between chondrocyte catabolic and anabolic activity. Since chondrocytes are lost to cell death at some point in the process of cartilage destruction, it is also important to know whether these molecular factors also contribute to cell death.

The cause of chronic synovitis in OA is not well understood. Debris or parts of cartilage may be found in the synovium, where they provoke typical responses to foreign bodies. Mechanical injury can also lead to the secretion of free radicals or reactive oxygen species (ROS).

**ROS and chronic cartilage destruction**

The role of ROS in cartilage damage remains controversial. Recently, Green et al. added to the literature describing the role of ROS release after mechanical injury in the progression of cartilage destruction. Nitric oxide in particular is implicated in this process and may combine with other ROS to form the highly toxic compound peroxynitrite.
ROS also will induce inflammatory mediators, such as NF-κB, IL-1, and IL-6. ROS have been implicated in chondrocyte senescence.⁶ ROS may also have a direct influence on the production of Vascular Endothelial Growth Factor (VEGF), a powerful stimulator of angiogenesis and chronic inflammation.⁷

Angiogenesis and chronic inflammation

The formation of new blood vessels is essential during fetal development but rarely occurs in adults except in overzealous attempts at remodeling and regeneration, as in OA. Inflammatory mediators can stimulate angiogenesis either directly or indirectly. Inflammatory cells that produce this effect include macrophages and mast cells, which are present in the OA synovium. Macrophages are generally found wherever abnormal angiogenesis occurs, as in synovitis and tumors. Angiogenesis may be important in potentiating or perpetuating inflammation, rather than initiating it. On the other hand, angiogenesis may be indirectly self-perpetuating because it increases inflammatory cell infiltration and thus increases the cells that secrete angiogenic factors such as VEGF and Fibroblast Growth Factor (FGF-1).⁸ Vascularization of normally avascular cartilage and at the osteochondral junction is a feature of OA. In growing individuals, angiogenesis is required for normal endochondral ossification to close long bones. This process is mediated by VEGF from hypertrophic chondrocytes. In OA, however, growth through osteophytes at the joint margin also occurs through osteochondral ossification. Cartilaginous extensions of the articular surface become invaded by blood vessels, and bone extends from the subchondral structures. Neoinnervation also follows angiogenesis and may contribute to pain in chronic synovitis (see Figure 2). Targeting these aspects could lead to novel approaches to treating OA. The fact that Zeel, a homeopathic combination medication, is formulated to address these aspects, along with its excellent tolerability, makes it an ideal option for treating the chronic inflammation seen in OA.

Bioregulatory treatment of OA

We have seen in the previous section that OA is characterized by chronic, low grade inflammation with frequent flare-ups of acute inflammation. Conventional treatments (NSAIDs, paracetamol/acetaminophen, and/or intra-articular corticosteroids) act to suppress only certain aspects of the inflammation and have significant side effects. Intra-articular administration of hyaluronic acid attempts to supply the cartilage with proteoglycan support.⁹ Combinations of chondroitin sulfate and glucosamine have long been used for this purpose in treating OA, with variable evidence of efficacy.¹⁰,¹¹,¹² Some promising new treatments use autologous serum.¹³ The use of antioxidants in OA has not been proven to be beneficial and remains controversial.¹⁴ In view of the pathogenesis outlined above, the use of low-concentration antigens with a multi-target regulation such as is seen in the antihomotoxic repertoire becomes interesting.

Traumeel and Zeel as combination therapy in OA

Traumeel has been shown in studies to be both clinically efficacious and an immune-modulating medication¹⁵-²¹ and should be considered for its immune-regulating properties, which promote repair while permitting a certain level of inflammation so that degradation of debris can occur. Zeel has been used for degenerative arthritis for many years; empirical evidence indicates that it is as effective as Cox-1 and Cox-2 inhibitors in treating OA.²² However, it may have a special role to play with regard to the pathophysiology of chronic inflammation. Many of its ingredients, such as Rhus tox, contain flavonoids, known for their antioxidant effects.²³ Rhus tox and Arnica also have been shown to have effects on IL-6, which is secreted by macrophages and may play a central role in chronic inflammation and angiogenesis. In an animal study, Stančíková demonstrated that when rabbits with experimentally induced arthritis were treated with either Zeel or a solvent (reference substance), the Zeel group developed far fewer erosions and less hypertrophic cartilage than the solvent group.²⁴ Histochemical analysis also revealed significant vascularization of the deeper layers of cartilage in the animals treated with the solvent, whereas the Zeel group developed only a few capillaries. (In view of the central role that angiogenesis appears to play in the pathophysiology of OA, this is a very important finding.) And finally, the arrangement of chondrocytes was also much more structured in the verum group. It is interesting to note that the alkaloid sanguinarine, found in Sanguinaria canadensis (one of Zeel’s ingredients), has been shown to inhibit VEGF.²⁵,²⁶

Conclusion

Ongoing research is clarifying the complex pathophysiology of OA. Disruption of the catabolic/anabolic cycle of the cartilaginous matrix appears paramount. New evidence
Osteoarthritis is generally described as “non-inflammatory” arthritis, but acute flare-ups with clinical signs of inflammation such as redness, warmth, swelling, pain, and loss of function are common in OA patients (here: inflamed elbow joint).

suggests that both the generation of ROS (through mechanical pressure) and angiogenesis contribute significantly to the development of chronic inflammation, tissue destruction, and pain. Standard treatment with NSAIDs aims primarily to reduce inflammation and control pain. Substances that inhibit MMPs are currently deemed too toxic to be of any use in OA. Viscosupplements, chondroitin sulfate and glucosamine, and some other novel treatments are also used, with variable evidence of efficacy.

Due to the different effects of the two anthihomotoxic medications Traumeel and Zeel on acute and chronic inflammation, it is feasible to administer these two products in combination: Zeel for long-term treatment, Traumeel at the beginning of treatment and for acute flare-ups. Both of these medications have been shown to have excellent tolerability profiles. Further research is warranted to clarify the exact effect of Zeel on angiogenesis and the effect of the medication on ROS in chronic inflammation.

References

Myths in medicine

Even western medicine is not always strictly rational, and little headway has been made against its unfounded myths and preconceptions. For example, the claim that only 10 per cent of the human brain is utilized is demonstrably false. There is also no scientific evidence to support the repeatedly postulated health-promoting effects of drinking a daily minimum of eight glasses of water. Hair and fingernails do not continue to grow after death, nor does shaving make hair grow back faster and thicker. Ophthalmologists agree that reading by flashlight under the covers at night will not ruin your eyes, and eating turkey will not make you sleepy any faster than other, similarly fatty or heavy foods. Forbidding the use of cell phones in hospitals may be conducive to patients’ recovery, but to date there is no proof that radiation emitted by the phones makes medical equipment malfunction. In tests, interference has been noted only in rare instances when mobile phones and medical electronic devices were in very extremely close proximity.

BMJ 2007;335:1288-1289

Honey for coughs

Honey relieves coughs in children, according to a randomized study in which 105 children with upper respiratory infections were given honey, a cough suppressant, or no medication at night before going to bed. The children who received honey fared the best not only in terms of frequency and severity of coughing but also with regard to quality of sleep (both their own and their parents’).

Arch Pediatr Adolesc Med 2007;161(12):1140-1146

Mozart as medicine

Not only is Mozart’s music beautiful, it also has its uses in the ICU. In one study, 10 patients on artificial respiration listened to slow movements from Mozart’s piano sonatas through earphones for one hour on the first day after surgery, with astonishing effects. In comparison to the control group, the patients who received “Mozart therapy” experienced decreases in heart rate and blood pressure and required significantly less sedation.

Crit Care Med 2007;35(12):2709-2713

Couch potatoes age faster

It has long been known that regular exercise has positive effects on health, but now a study conducted at King’s College in London has shown that physically active people also seem to be biologically younger than their nonathletic age peers. Scientists used leukocyte telomere lengths to determine the biological age of more than 2,400 subjects ranging in age from 18 to 81. Telomeres are the terminal sections of DNA that protect chromosomes from destruction. Over the course of a lifetime, telomeres become shorter, leaving the chromosomes more susceptible to damage and disease. Scientists found that older but more active subjects had the same telomere lengths as younger people who were inactive. It seems, therefore, that lack of physical exercise accelerates the aging process. An active lifestyle that includes adequate exercise is both “good medicine” and a cost-effective anti-aging strategy. Science has now provided couch potatoes with one more bit of motivation to become active.

Arch Intern Med 2008;168(2):154-158
What Else Is New?

Plush bacilli and huggable microbes

There's nothing new under the sun: Stuffed animals are now available in the shape of viruses, microbes, and other germs. The selection of 15 cm-long “GIANTmicrobes,” as the American manufacturer calls its cuddly bacilli, includes Helicobacter pylori, the syphilis germ, and the AIDS virus (complete with its own red AIDS ribbon) – to name just a few. Prices for these monster microbes begin at $7.95 US (7 euros). The real items are usually free, but they’re harder to get rid of than stuffed animals.

www.giantmicrobes.com

Fear increases sensory acuity

Being afraid heightens your sense of smell. That was the admittedly oversimplified conclusion of an American study that investigated the connection between olfactory acuity and emotional stress in 12 young adults. Subjects were asked to identify the non-matching substance in a series of three chemicals that smelled very similar. Results improved significantly during the second round of smell testing, when the participants were exposed to stress in the form of mild electric shocks. The investigators interpreted this mechanism as a survival strategy that helps humans sort out dangerous “messages” from an overabundance of sensory stimuli.

Science 2008;319(5871):1842-1845

Taciturn or talkative?

Gender has no bearing on how much a person talks, according to a study conducted by Texas scientists who recorded snippets of students’ conversations. They found that in the course of a day, men talk just as much as women – roughly 16,000 words, on average, although there were significant variations within each gender. Taciturn men and women alike got by on approximately 8,000 words per day, while chatterboxes of either sex let loose 24,000 words during the same time period.

New Scientist 2007;195(2612);18

Contrary to popular belief, women do not talk more than men. However, there are significant variations within each gender.

New scientific findings show that regular physical exercise slows down the aging process.
Introduction

Biopuncture is the injection of biotherapeutics into indication or tissue-related zones or points on the body, as determined through clinical and functional diagnosis. The therapeutic agents may be administered subcutaneously or injected into joints, muscles, or ligaments. Administering the medications in the right spots or in the relevant body zone enhances the clinical effect. Increasing numbers of physicians are realizing that such injections can expand the scope of their practice.

Biopuncturists use both antihomotoxic medications and hyaluronic acid. Lymphomyosot is used for lymphatic drainage and matrix detoxification and Traumeel is used to regulate the inflammatory response. Spascupreel is injected for muscular spasms and Coenzyme compositum for tissue repair (damage on the cellular level). Zeel and hyaluronic acid are used for chronic joint pain in the elderly and for degenerative joint disease (cartilage damage). Many doctors combine several ampoules in a single injection to achieve better results (see Table 1).

Local anesthetics can be added as modulators of neural information and to make the injections less painful. Biopuncturists use low concentrations of local anesthetics such as 0.5 percent procaine or 0.25 percent lidocaine. Hypertonic dextrose can also be added to stimulate healing of injured connective tissues such as capsules, fascia, ligaments, and periosteum.

Frequency and location of injections

Biotherapeutic agents are administered once weekly by injection into zones or points related to the indication or affected tissue. In selecting injection sites, we opt for either local injections (e.g., in the pain zone) or distant injections (e.g., in trigger points) and select one of four tissue types for injection:

1. subcutaneous,
2. intramuscular,
3. soft tissues (e.g., a bursa or around a tendon),
4. a ligament, enthesis, or periosteum.

Different steps of local injections

When dealing with chronic inflammatory disorders, a step-by-step procedure enhances clinical results. We begin, for example, with local administration of a lymphatic drainage agent to cleanse the local matrix. For this purpose, we use local subcutaneous injections with Lymphomyosot (phase 1 product). Traumeel is then used for local immunomodula-

<table>
<thead>
<tr>
<th>Table 1: Examples of standard combinations commonly used by biopuncturists</th>
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<tbody>
<tr>
<td>For subcutaneous injections</td>
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<tr>
<td>For soft tissue injections (e.g., tendon)</td>
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<tr>
<td>For intramuscular injections (overuse/posttraumatic)</td>
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<tr>
<td>For intramuscular injections (spasms)</td>
</tr>
<tr>
<td>For ligament injections</td>
</tr>
<tr>
<td>For chronic inflammation (cellular)</td>
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<tr>
<td>For chronic inflammation (joint degeneration)</td>
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</table>
Zeel is used to treat chronic joint pain in elderly patients and for degenerative joint disease with cartilage damage.

<table>
<thead>
<tr>
<th>Phase 1 product:</th>
<th>Lymphomyosot</th>
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<tbody>
<tr>
<td>Phase 2 product:</td>
<td>Traumeel</td>
</tr>
<tr>
<td>Phase 3 products:</td>
<td>Spascupreel or a Homaccord ampoule</td>
</tr>
<tr>
<td>Phase 4 products:</td>
<td>Coenzyme compositum or other compositum or Zeel</td>
</tr>
</tbody>
</table>

Table 2: Phase products used in biopuncture

<table>
<thead>
<tr>
<th>Step 1:</th>
<th>Once weekly for two weeks: Subcutaneous or soft-tissue injections of Lymphomyosot and Traumeel in the pain zone</th>
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<tbody>
<tr>
<td>Step 2:</td>
<td>Once weekly for two weeks: Intramuscular injection of Traumeel (or Lymphomyosot + Spascupreel) into myofascial pain points or trigger points. Alternatively, injection of Traumeel and dextrose into ligaments</td>
</tr>
<tr>
<td>Step 3:</td>
<td>Once weekly for two weeks: Deeper injections of Traumeel + Coenzyme compositum into the above-mentioned points</td>
</tr>
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</table>

Table 3: Example of a standard step-by-step biopuncture treatment for chronic inflammatory disorders

The step-by-step strategy is not set in stone but can be adapted to each patient’s specific situation. Beginning with Lymphomyosot is especially important for hyper-responders (sensitive patients). The three steps and six weekly sessions shown in Table 3 are a typical example of step-by-step biopuncture treatment of chronic inflammatory disorders. In the first step, which combines phase 1 and phase 2 products, a mixture of Lymphomyosot and Traumeel is administered once weekly for two weeks. These medications are usually injected either subcutaneously or into the soft tissues surrounding the site of chronic inflammation. In step 2, Traumeel (or Lymphomyosot and Spascupreel) can then be injected into the myofascial pain points or myofascial trigger points. When painful spots are found in ligaments, Traumeel and dextrose are injected into these spots. In step 3, a mixture of Traumeel and Coenzyme compositum or Zeel and Coenzyme compositum is used.

Clinical applications of biopuncture in treating chronic inflammatory disorders

In cases of chronic inflammatory disorders, we usually administer six weekly injections and then give the body six weeks to respond and achieve bioregulation and complete healing. If necessary, the whole process (another series of 6 injections) may be repeated.
Here are three examples of chronic disorders: in the shoulder, in the knee, and in the Achilles tendon.

**Chronic shoulder pain**

We begin by injecting Traumeel and Lymphomyosot subcutaneously into the pain zone (step 1). If the biceps tendon is tender upon clinical examination, we also administer another injection near the tendon. This treatment is repeated one week later. In the third and fourth sessions (step 2), Lymphomyosot and Traumeel (or Spascupreel) may be injected into several different muscles (e.g., pectoral, trapezius, infraspinatus; see Figure 1, deltoid) and/or Traumeel and dextrose may be injected into the shoulder ligaments (e.g., AC ligament, coraco-clavicular ligament) or into the joint capsule. In the fifth and sixth sessions (step 3), injections of Coenzyme compositum (or Zeel, in the case of degenerative joint disease) may be injected into the above-mentioned sites.

**Chronic knee pain**

We usually begin with two sessions of subcutaneous injections of Traumeel and Lymphomyosot in the pain zone (step 1). If the patellar tendon is tender, the same combination is also injected near the tendon. In the third and fourth sessions (step 2), Lymphomyosot plus Traumeel or Spascupreel may be injected i.m. (e.g., into the quadriceps) and/or Traumeel and dextrose may be injected into the collateral ligaments or the pes anserinus (see Figure 2). In the fifth and sixth sessions (step 3), Coenzyme compositum (or Zeel in elderly patients or in cases of degenerative joint disease) may be injected into the above-mentioned sites.

**Chronic Achilles tendinosis**

Step 1 consists of two sessions of injections of Traumeel plus Lymphomyosot administered s.c. and around the tendon (Figure 3). In the third and fourth sessions, Traumeel may be injected into soft tissue closer to the tendon while Lymphomyosot plus Traumeel (or Spascupreel) is injected into the calf muscle (step 2). In the fifth and sixth sessions, Coenzyme compositum may be injected near the tendon and into the calf muscle (step 3).

References

Movement and the Matrix

The Importance of Biomechanical Signals in Matrix Remodeling

By Alta A. Smit, MD

To stay healthy, the extracellular matrix (ECM) must renew itself constantly. The anabolic/catabolic cycle of tissues is one of the body’s homeostatic mechanisms that follow a biorhythm. All such processes involve close orchestration among different systems, namely the immune system, hormonal system, and local mediators. Various triggers for remodeling have been postulated, ranging from denatured tissue to mechanical forces.¹

The role of the connective tissue as a body-wide signaling network has been recognized by the ancient cultures and has been recently revisited by authors such as Langevin.² She also makes the connection between the connective tissue planes and the meridians, thereby offering an explanation of phenomena observed in daily practice when working with acupuncture points.¹

The role of mechanical forces on the ECM is also becoming clearer, although the exact mechanism of action is still not completely known. In the past two decades, research has determined that many cells are sensitive to mechanical forces and can change their phenotype as well as the structure of the surrounding connective tissue. Of even greater interest, cells that share a common ECM may alter their mechanical environment by inducing other cells to remodel the ECM, as happens in lung tissue where fibrosis is the outcome, even if there is no inflammation in the environment.⁴ According to Langevin and others, a number of possibilities emerge when looking for possible signals sensitive to mechanical forces:

1. Electrical signals

Szent-Györgyi used the term “bioenergetics” to refer to energy not confined in biomolecules but emitted or absorbed directly by tissue. As early as 1941, Szent-Györgyi proposed that electrons can propagate through crystalline structures both within and between molecules, forming semiconducting currents entirely separate from the movement of ions, previously assumed to be the only possible basis for bioelectricity.⁵ This is the working mechanism postulated to explain the recent discovery that rotational field quantum magnetic resonance (RFQMR) can be used to regenerate cartilage in osteoarthritis of the knee joint.⁶ The major stimulus for bone and cartilage formation is a piezoelectric signal generated when the bone or cartilage is subjected to tension or compression. This knowledge is widely used today in orthopedics, where it is known that bone atrophies, as during space travel or when immobilized or not used. In these cases, therefore, movement is encouraged to support better healing, and ultrasound or other devices may be used to simulate the piezoelectric signal. Transmission of this piezoelectric signal is also impaired following joint injury and trauma or in diseases such as osteoarthritis.⁷

2. Cellular signals

Connective tissue fibroblasts have been shown to become active after mechanical stretching,⁸ and sports medicine has documented the effect of stretching on healing tendons and other structures.⁹,¹⁰ Even ionic membrane pumps and cytoplasmic enzyme reactions have been shown to respond to mechanical stimuli. Recent evidence suggests that stretching may even attenuate inflammatory signals in osteoarthritis joints.
Data suggest that constant application of cyclic tensile strain (CTS) blocks IL-1β-induced proinflammatory genes at the transcriptional level. The signals generated by CTS are sustained after its removal, with their persistence dependent on the length of CTS exposure. Furthermore, the sustained effects of mechanical signals are also reflected in their ability to induce aggrecan synthesis. These effects were seen on transcription factors of inflammatory mediators on chondrocyte stretch in vivo. These findings, extrapolated to human chondrocytes, may provide the insight needed to achieve optimal sustained effects of physical therapies in the management of arthritic joints.

3. Plasticity signals

Structural change of an organism is closely related to the cell’s ability to modulate its pericellular environment, whether in the normal process of growth, in maintaining homeostasis, or as part of a disease process. This response of connective tissue to mechanical stress is well-known. According to Langevin, it takes place over days or weeks following a change in posture or a new activity. It follows remodeling of the ECM with changes in the collagen matrix as well as viscoelasticity. Matrix remodeling is an example of a catabolic/anabolic cycle: Proteolytic enzymes stimulated by tissue damage or inflammatory mediators are counteracted by antiproteases activated by substances such as TGF-β. To date, these effects had been noted only in specialized connective tissue. The possibility that they will also be found in loose connective tissue suggests an overall plasticity reflecting an individual’s overall movement patterns and would also explain the effect of local inflammatory foci on the entire body, known empirically to practitioners of biological medicine. Oschman also examines this phenomenon in an article reviewing the role of free electrons and their antioxidant activity.

In conclusion, movement of the matrix plays an important role in its remodeling and regeneration. We would do well to include stretching or even aerobic exercise as part of our patients’ treatment. The need is especially great in cases of tissue damage that require remodeling, as in fractures, osteoporosis, and even tendon injury.

Supportive bioregulation

As mentioned above, matrix remodeling is a complex process relying on multiple factors: the immune system for controlled inflammation and repair, the action of amino acid-depended proteases and metalloproteinases, normal cortisol diurnal rhythm, and normal angiogenic balance. The three pillars of antihomotoxic therapy (detoxification and drainage, immunomodulation, and organ regulation) are essential to ensure matrix health.

It can be postulated that many environmental toxins carry electrical or chemical charges that may disrupt subtle piezoelectric signals and affect transcription of mediators, thus affecting plasticity. The example of the zebra fish tail, which regenerates completely after being severed, shows that adult zebra fish have the capacity to regenerate the caudal fin, a process that is inhibited by exposure to the ubiquitous environmental contaminant 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). Fin regeneration is a complex process requiring precise regulation of several processes including wound healing, ECM production, revascularization, innervation, and bone formation. TCDD, a persistent organic pesticide, directly inhibits this process. The practice of advanced supportive detoxification with subsequent drainage is thus recommended for matrix health. Antihomotoxic medicine combined with proper nutrition can support this process. Medications such as Thyreoidea compositum and Pulsatilla compositum are especially suitable for supporting the matrix biorhythm. Immune modulation that down-regulates inflammatory mediators and secretion...
of TGF-β (part of the working mechanism of Traumeel) is also of benefit. These interventions support matrix remodeling and form the backbone of treatment of many chronic diseases. Together with adequate movement and nutrition and restoration of sleep/wake cycles, they may ensure normal matrix plasticity and restore anabolic/catabolic cycles.

References

Structure of the extracellular matrix
Evidence-Based Homeopathy

More Than Results of Double-Blind Studies!
63rd Congress of the Liga Medicorum Homeopathica Internationalis

By Peter Rae Smith, MD

From May 20-24, 2008, some 800 delegates met in Ostend, Belgium, to participate in the 63rd conference of the Liga Medicorum Homeopathica Internationalis (LMHI). The overall theme of this years’ conference was “Evidence-based homeopathy – more than results of double-blind studies.”

The lovely seaside resort of Ostend is tailor-made for such gatherings. The Kursaal conference center, where the lectures were held, is located right on the beach, midway along the broad promenade that stretches for several kilometers in either direction – an ideal site for walking, jogging, cycling, or rollerblading. The conference also coincided with a four-day gathering of sailing ships from all over Europe.

A long tradition

Belgium has a long homeopathic tradition and has hosted no less than five LMHI (“Liga”) conferences in the past. The 2008 event, organized to celebrate the 20th anniversary of the Unio Homoeopathica Belgica (the Belgian professional organization for medical homeopathy), was truly international in content and attendance. The conference aimed to give an overview of effective homeopathic methodologies and strategies that have stood the test of time. Well-known specialists (including university professors) gave presentations on provings, clinical cases, clinical studies, and pharmaco-epidemiological studies. There were always five or six different concurrent sessions to choose from, forcing the delegates to make some difficult choices. Feedback reporting sessions at the end of each day provided a useful overview of the progress of the conference.

Opening ceremony

Liga president Dr. Ulrich Fischer gave the opening remarks, followed by a moving tribute by David Owen to the many great British homeopaths and administrators who died in a plane crash in 1972 on the way to the last LMHI conference held in Belgium. Jacques Imberechts inaugurated a commemorative plaque to George Jahr, the great Belgian homeopath and student of Hahnemann. Ton Nicolai, President of the European Committee of Homeopathy, then awarded the “Globular Politics Award” to Michel Van Wasenhoven, the Chairperson for the 63rd congress. This is given to “physicians who, in addition to their day-to-day work as a homeopathic doctor, have been instrumental in the social-political area and apply the homeopathic principles in all areas of their lives.”

Queen Paola of Belgium and her physician, Dr. Maurice Jenaer (to her left), surrounded by participants at the Liga congress.
Some highlights of the conference

Among the many highlights of this conference, here are a few of special interest: The first plenary session, on the ‘Politics, History and Economics of Homeopathy,’ included Ton Nicolaï’s talk on the current status of complementary and alternative medicine (CAM) in the European healthcare system and Christian Boiron’s “Homeopathy is a language.”

In another plenary session on “Research – from proving to double-blind,” Prof. Claudia Witt presented an important paper on the treatment of atopic eczema in children. Dr. Witt is the first person to hold the Chair for Research in Complementary/Alternative Medicine, recently endowed by the Karl and Veronica Carstens Foundation, at the Charité University Medical Center in Berlin.

To the surprise and delight of the participants, Queen Paola of Belgium paid an unannounced visit to the conference, sitting in the audience and listening intently to an interesting presentation by her homeopathic physician, Dr. Maurice Jenaer, on microimmunotherapy. A report of her visit aired on local television that evening. What a wonderful show of support for homeopathy!

A variety of intriguing workshops dealt with different clinical methods such as the Masi method, Sankaran’s “Bombay method,” the Vithoulkas method, etc., while others looked at actual provings of a broad range of new (and old) substances. Jan Scholten led a number of sessions on his work with the Lanthanide remedies. The provings of this series of 15 “rare earth” elements appear to show affinity for the immune system.

Dr. Ulrike Keim’s satellite symposium, “Is there a synergy between classical homeopathy and homotoxic combination preparations?” was well attended. Dr. Keim, known to BT readers as a specialist on metabolic syndrome (see BT issue 1/2008), skilfully interwove the principles of classical homeopathy, such as miasmatic theory, with the practical applications of antihomotoxic combination medicines.

Dr. Robbert van Haselen, Head of Research at Biologische Heilmittel Heel GmbH, Baden-Baden, gave an interesting talk entitled “Detoxification and drainage – historical perspectives and the current scientific state of the art,” which was well received by the audience.

Although the Liga is predominantly a classical homeopathic organization, presentations dealing with homotoxicology were well received by the delegates. The next congress will be held in Warsaw, Poland, in September 2009.
Getting Organized

Professional file management and returning phone calls

By Marc Deschler
Marketing specialist

In this issue, we’ll deal with two topics: how to use professional file management to aid in efficient decision-making in your practice and how to deal with constant, annoying phone interruptions during office hours.

Learn to manage files proactively

At some point, all of us have made very quick decisions about questions with significant financial impact, such as buying a car or hiring staff. On the other hand, we often put off making much less important decisions for days or even weeks, and the stack of unanswered mail keeps on growing. What things do you leave lying around to deal with later – a whole newspaper with a single interesting article in it? A letter from a patient that you want to discuss with your team?

These steps will help you get the problem under control:

1. Confront your procrastination consciously and note what types of things you tend to leave for later.
2. Set a time to tackle your entire “to do” pile and don’t stop until you have made all necessary decisions.

Do not allow yourself to be interrupted by patient phone calls during an appointment. Patients deserve your undivided attention, whether in person or on the phone.
3. On each piece of mail, note what action it requires: Do you need to make an appointment, place an order, discuss it in a team meeting, file it for future reference?

4. Starting right now, make all such decisions immediately.

Organized decision-making requires an appropriate filing system. Establish folders for interesting topics you want to be sure not to forget, such as:

- items for your next team meeting (for example, discuss this column!)
- tax tips to bring up at your next meeting with your tax advisor
- patients’ complaints that you need to address

Set deadlines for dealing with the contents of these folders so nothing gets forgotten.

Of course there are some decisions that cannot be made on the spot. For example, you receive information about some very interesting new electroacupuncture technology, but there’s no place for it in your investment plan at the moment. Make a habit of saving such materials in a file cabinet that is located as far from your desk as possible and that only you use, so simply filing or retrieving the information will take enough time to allow you to think about your indecision. If you then go through the file at regular intervals, you’ll find that most of these materials can simply be thrown out.

I’ll call you back!

Many practitioners accept calls from patients even during office visits. This practice has at least three distinct disadvantages:

1. You may need to interrupt the patient you’re with in the middle of a very personal conversation.
2. The patient you’re with may overhear confidential information about the patient on the phone.
3. Your work flow is disrupted.

As a general rule, do not allow yourself to be interrupted by patient phone calls during office hours. This is especially important during appointments because an interrupted conversation is much less satisfying to the patient than even a brief consultation in which he or she can count on your undivided attention. Furthermore, privacy of information is very high on most patients’ priority list, so it should be preserved at all costs.

The solution? Institute an efficient system for returning calls. Your office staff notes all incoming calls and pulls those patients’ charts so they are immediately available when you have fifteen minutes free to return calls. If you don’t have to search for missing information, you’ll spend less of your precious time on the phone. Another plus: You get to decide whom you talk to, what you talk about, and when.

Here are some general rules:

- To avoid scheduling conflicts, make a habit of returning calls at certain set times. Note these times in your daily calendar.
- Make sure your employees tell patients when your call-back time is so they will be available when you call.
- Your office staff should make a list that includes each caller’s name and phone number and the time and subject of the call.
- If no one is available to answer the phone during office hours, record an appropriate message on your answering machine.

If you follow these guidelines, you will always be able to give each patient the attention they deserve, whether in person or on the phone.
Sulfur is a non-metal, lemon yellow in color, with atomic number 16 in the periodic table of the chemical elements. Its symbol is S and it is situated next to phosphorus (P, atomic number 15) to its left and chlorine (Cl, atomic number 17) to its right. The element immediately above it is oxygen (O, atomic number 8) and the element immediately below it is selenium (Se, atomic number 34).

It is characterized by high electronegativity and consequently gains electrons more easily than it loses them. Its oxides are acidic and tend to form anions and oxyanions in aqueous solution. Solutions in water are acidic (pK\text{a} = 7.00).

The essential amino acid methionine, which is apolar and hydrophobic, contains a sulfur atom in its side chain. It is converted to homocysteine and combines with the nonessential hydrophilic amino acid serine to form cysteine, a special nonessential amino acid. The side chain of cysteine contains a sulfhydryl (-SH) group, also known as a thiol group, which can undergo oxidation to form a covalent disulfide bond (-S-S-) with a second cysteine from the same or a different polypeptide chain.

The disulfide bonds form in the lumen of the rough endoplasmic reticulum (RER) of the cell in which oxidizing conditions predominate, unlike in the cytosol where the prevailing reducing conditions maintain cysteine residues in the reduced state (-SH). Disulfide bonds (S-S) are essentially found only in secretory proteins and in the exoplasmic domains of membrane proteins. The RER is also the site of synthesis of proteins that subsequently go on to form part of various cell membrane receptors.

The efficient formation of disulfide bonds in the lumen of the RER depends on the enzyme protein disulfide isomerase (PDI). This enzyme catalyzes the formation of disulfide bonds, which catalyze the protein folding of many proteins. In this process, PDI catalyzes the cleavage of some disulfide bonds and the formation of others, which implies an interchange between pairs of disulfide bonds in the polypeptide chain. PDI is found in all eukaryotic cells, particularly in organs such as the liver and pancreas.

Glutathione and the enzyme glutathione reductase are other enzymes involved in the formation of the appropriate disulfide bonds in many proteins and polypeptide hormones. Similarly, they have been shown to be involved in the metabolism of xenobiotics. Thus the disulfide bonds of cysteine contribute to the formation of the three-dimensional structure of the various protein chains. The sulfate present in urine thus comes entirely from oxidation of L-cysteine.

The following list shows where sulfur is found in bodily metabolism:
- in the structure of the amino acids methionine, cysteine, homocysteine, and taurine
- in the structure of proteins

Since antiquity, sulfur has been used as a homeopathic medicine in various conditions. Its use has been empirical in nature, it being given in accordance with its various homeopathic effects when administered to sick patients. Advances in the study of basic sciences now enable us to understand many of these empirical applications, giving them new-found scientific validity. Sulfur plays an active role in numerous metabolic processes in the healthy human body.
in various roles in the immune system (immunoglobulins, cytokines)
• in adhesion molecules (cellular = CAM and intercellular = ICAM)
• in membrane receptors, such as insulin
• in leukotrienes, such as LTD₄ and LTE₄
• in the structure of growth hormone, calcitonin, dehydroepiandrosterone, insulin, prolactin, somatomedin, somatostatin, synthesis of T₃ and T₄
• in the peptides activin, inhibins, atrial natriuretic peptide, brain natriuretic peptide, C peptide, relaxin, arginine-vasopressin, oxytocin
• epidermal growth factor, nerve growth factor, platelet-derived growth factor, erythropoietin
• leptin, cholecystokinin
• in the structure of collagen fibers, desmosine, elastin, fibrillin, fibronectin, integrin, laminin, osteonectin, keratin
• in the structure of articular cartilage and glycosaminoglycans, chondroitin 4-sulfate and 6-sulfate, keratan sulfate I and II, heparin, heparan sulfate, dermatan sulfate
• constituent of the structure of the vascular wall, endothelins
• in the coagulation cascade, structure of fibrinogen
• as a catalyst in the respiratory chain of the citric acid cycle
• in cellular apoptosis (caspase enzymes)
• S-adenosylmethionine, synthesis of epinephrine, creatinine, melatonin
• hepatic metabolism of cytochromes and action on xenobiotics
• in gastric fluid and pancreatic fluid
• vitamins, such as thiamine, biotin
• Shigella toxin, diphtheria toxin, immunotoxin
• in the pharmaceutical and food industry and in agriculture

The principles of Rudolf Arndt and Hugo Schulz, which demonstrate the linear pharmacological relation between dose and effect, give rise to the basic biological rule which states that the physiological action of a cell increases or decreases in relation to the intensity of the stimulus: Weak stimuli stimulate the life functions, moderately strong stimuli accelerate them, strong stimuli act as inhibitors, and the strongest stimuli suspend the life functions.

The high consumption of sulfur entering the body is probably transformed into an intense stimulus that displaces the equilibrium of the matrix and the membrane receptors, a phenomenon leading to modifications in the network of information received and transported through the matrix in the intranuclear, intracytoplasmic, and extracellular spaces.

A cascade effect then ensues that leads to a change in biochemical, immunological, and hormonal responses. This also destabilizes the three-dimensional structure of proteins, which, as we have already seen, need the presence of the disulfide bonds to maintain their stereochemical presentation and recognition at the cell membrane.

Similarly, changes are produced in the assembly of collagen and elastin fibers. Destabilization of the proteo- and aminoglycans that form the hydrated fibrous framework for the extracellular matrix results in competition between the H⁺ ions of the weak acid of H₂O and the hydrogen ions of the strong acids SO₄²⁻ of sulfuric acid H₂SO₄ and HPO₄²⁻ of...
phosphoric acid $\text{H}_3\text{PO}_4$. Proteoglycans and aminoglycans are substances that readily undergo electrolytic exchange. Their alteration destroys their capacity to retain water in the cartilage and extracellular matrix, changing their state of fluidity to a state of desiccation or gel formation; the end result of this alteration is a state of systemic equilibrium. These alterations predispose the patient to chronic conditions such as diabetes, rheumatic disease, osteoporosis, and arthritis.

What happens in this information exchange? We do not know exactly, but can postulate one of the following:

- A change in body pH alters the behavior of the disulfide bonds, making them more rigid, the result being that the protein chain loses its capacity to adjust to the membrane receptor.
- An increase in these bonds causes changes in the three-dimensional structure of the protein chain.
- A loss of the capacity to form disulfide bonds causes the protein chains to break.
- A loss of cohesive strength of the disulfide bonds makes them cleave easily.

We do not know exactly how this destructive process occurs, but we are familiar with the catastrophic effect of sulfur consumption on the body. Within a few years, research will surely reveal to us in detail how the destructive effect of excessive intake of sulfur on bodily metabolism occurs.

Contrast this with the pharmacological viewpoint and therapeutic indication of allopathic medicine, in which the damage caused by an excess of sulfur is treated with sulfur-based drugs that the patient takes in high doses, causing a high degree of intoxication and consequent worsening of the disease. Although there may be a relative improvement due to an initial mechanism, what is seen long-term is a worsening of symptoms and a chronicization of the initial disease process, each time necessitating more combinations of medicines. We can take as an example the profile and timescale of a chronic condition such as diabetes. For chronic diabetic illness, treatment is commenced with sulfonyleureas, which are briefly effective. However, in time the body ceases to respond to these drugs, making it necessary to add another oral antiabetic such as metformin or rosiglitazone, with the patient ultimately becoming dependent on insulin in order to manage symptoms and without this curing the disease. We return then to the patient as a chronic consumer of pharmacological substances that provide no cure but continually exacerbate the disease course and the permanent sulfur intoxication.
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Whiplash is a term used to describe an injury to the soft tissues – the muscles, ligaments, and nerves – of the neck. Many people fail to relate their symptoms to a car accident because the symptoms often begin days, months, or even years after the accident.

This patient, referred to me by a local family physician, presented with secondary whiplash symptoms presumably due to an automobile accident several years ago. After the accident, treatment with NSAIDs and physical therapy adequately relieved the acute pain of the patient’s whiplash, but she remained constantly aware of discomfort in her neck. As time passed, she continued to take medication for this chronic pain, but her symptoms gradually worsened and eventually became unmanageable.

History

Fifteen years ago, this female patient, now 48 years old, had been involved in an auto accident without wearing her seat belt and suffered whiplash and minor cuts and bruises as a result. After the accident, she complained of severe headache and nausea and was hospitalized for two days. She was given a neck brace to wear for a minimum of 4-6 weeks and medication to address possible inflammation. She was left with chronic symptoms (pain in her neck, shoulder, and arms; stiffness; headaches; restlessness) that varied in frequency, sometimes appearing daily, sometimes with symptom-free intervals of up to a month. Several months ago, however, the pain became more pronounced and the pain-free intervals less frequent. Because the pain prevented her from sleeping, she also suffered from severe fatigue and irritation.

Examination

An initial examination revealed:
- decreased range of motion in the cervical spine
- swelling and inflammation in the cervical and surrounding musculature
- tenderness and pain around the cervical facet joints
- active myofascial trigger points
- cervicogenic headache

Upper cervical evaluation revealed an upper neck injury that had not been addressed by previous practitioners. Jackson’s Compression Test and the Valsalva maneuver were positive. An MRI revealed a small hernia between C5 and C6, postero-lateral to right. X-rays showed early-stage degeneration of the facet joints.

Treatment regimen

Treatment required a combination of chiropractic (to restore normal joint mobility and range of motion) and physical therapy (to restore muscle flexibility and movement). In addition, several antihomotoxic medications were administered:
- Spascupreel and Zeel were injected twice weekly into trigger points along the lumbar vertebrae to improve paraspinal muscular spasms and myofascial trigger points.
- Gelsemium-Homaccord and Lymphomyosot were injected twice weekly into the painful area to relieve cervical pain and inflammation and cervicogenic headache.
- Oral Gelsemium-Homaccord was also prescribed (10-15 drops 3-4 times per day).

The patient initially reported an increase in pain (possibly due to a reaction phase) but then reported gradual improvement in the pain and other symptoms from the 2nd to 3rd week. With less pain and irritation, she was able to relax, and her sleep pattern improved. Upon conclusion of treatment, she felt energetic, was no longer experiencing mood swings, and reported excellent concentration at work. Her quality of life has greatly improved, as has her family life.
Treatment regimen

Treatment required a combination of chiropractic and physical therapy. In addition, several antihomotoxic medications were prescribed:

- Spascupreel was injected twice weekly into trigger points along the lumbar vertebrae.
- A mixture of Zeel and Discus compositum was injected twice weekly into the paravertebral muscles to relieve chronic inflammation and degeneration of the facet joints and intervertebral disc.
- Colocynthis-Homaccord (which could also be mixed with Zeel and Discus compositum) was injected twice weekly into sites along the paraspinal muscles to relieve symptoms of sciatica and neuralgia.
- Traumeel tablets were prescribed for general inflammation and pain (1 tablet 3 times per day for six weeks).

Examination

On initial physical examination, the following orthopedic tests were positive, suggesting an L4/5 disc lesion:

- Decreased range of motion in active flexion/extension and rotation
- Straight leg raising (especially the right leg, above 70 degrees)
- Bragard’s test
- Valsalva maneuver

X-ray and MRI studies of the lumbar spine revealed:

- Disc herniation at the levels of L4 and L5 (more pronounced at the L5 level and on the right, but with minimal pressure on the thecal sac)
- Early facet degeneration from L2 to L5, both left and right
- Active myofascial trigger points in the lumbar paraspinal and gluteal muscles
- Flattening of the lumbar lordosis
- Irritation and inflammation of the lumbar facet joints

History

The patient is a 43-year-old male with a long history of lower back pain, which began at a very young age after various childhood mishaps and enthusiastic participation in contact sports. Treatment with NSAIDs was initially effective in combination with physical therapy, but as the years passed, the pain began to move into his legs, although it rarely radiated below the knees. As a result, treatment became less effective, and the symptom-free intervals between bouts of pain/restricted movement became shorter. At a later stage, even slight abnormal biomechanical movements triggered painful symptoms. The patient described the pain as burning, sharp, shooting, or “pins and needles.” It intensified with long periods of activity such as walking or cycling. Additional symptoms included pain-related insomnia and a painful sensation when bearing down during bowel movements.

The patient, who suffered from longstanding back pain and had consulted numerous specialists, had decided to endure his condition with the help of medication for as long as possible before resorting to surgical intervention. As a result, he became a walking illustration of the well-known statistic: Back pain is second only to the common cold as a cause of lost work time and results in more lost productivity than any other medical condition. His condition was interfering not only with his work but also with his general day-to-day activities and family life and even forced him to give up most of his sporting/outdoor interests.

Lumbosacral Pain Syndrome

By Dennis van Aswegen, DC

“Treatment for lower back pain is not a single therapy but rather an integration of several therapies.”
Suis-Organ Products in Antihomotoxic Medicine

Part 2: Production and Quality Control

By Wilfried Stock, PhD

Suis-organ preparations, an important component of antihomotoxic therapy, are administered especially to patients with chronic diseases to stimulate and reactivate the homologous human organs or tissues. Homeopathically prepared extracts of more than seventy different organs are available for specific organ support.

The manufacturing of suis-organ preparations is strictly regulated to ensure their safety. Before production of the mother tincture begins, the identity of the raw material of animal origin is first confirmed by a veterinarian. A number of tests are then performed, including a histological examination. Additional tests for zoonoses are conducted in specialized laboratories to ensure that the animal tissues contain no pathogens that infect humans. All of the test results are documented and archived and must be available before the animal material is processed further.

Homeopathic extracts

Production of homeopathic extracts from freshly slaughtered animals or their organs follows manufacturing methods 42a or 42b of the German Homeopathic Pharmacopoeia (HAB).1 In accordance with the 2007 HAB, one part of the animal ingredient is diluted with nine parts of 85 percent glycerol (Method 42a). The initial mixture is allowed to stand for at least five days, after which the coarsest particles are filtered out. The resulting filtrate is the mother tincture used in the production of further dilutions.

Method 42b applies specifically to the production of injectable medications (as defined in HAB 2007, Method 11) and eye drops (Method 15). The manufacturing process differs from that described in Method 42b only in that one part of the finely ground raw material is first mixed with 2.1 parts of 85 percent glycerol and succussed; for injection purposes, the first decimal (D1) dilution is then produced using three parts of this mother tincture and seven parts water, while the D2 dilution uses one part D1 and nine parts water.

In accordance with Method 42a, potentization stages up to and including D2 always involve a 1:10 mix with either 85 percent glycerol or 15 percent ethanol; beginning with D3, the carrier is 15 percent ethanol. The potentized suis-organ

"Isoelectric focusing," a technique for separating different molecules according to electric charge differences, is used to confirm the identity of suis-organ mother tinctures. The photograph shows a flatbed system for horizontal applications with integrated cooling plate and an external power supply unit.
extracts are then further processed into antihomotoxic medications in accordance with the relevant manufacturing guideline of the HAB.

**Quality assurance**

In addition to the above-mentioned microscopic histological examination of the animal raw material, additional analytical testing of finished mother tinctures takes place in Heel’s quality control lab. In particular, the identity of the mother tincture is confirmed through “isoelectric focusing,” a specialized electrophoresis technique applied in accordance with the European Pharmacopoeia. Isoelectric focusing makes it possible to identify the various components of a biological material as shown on an electropherogram. Comparison to previous production runs then ensures the uniformity of the current batch of mother tincture.

Other physical characteristics (color, opalescence, relative density) of the mother tincture are also tested.

**Viral and bacterial safety**

The special conditions under which donor animals are raised (see Part 1: Breeding and Raising the Donor Pigs, BT 1/2008, pp. 24-25) and extensive testing of the animal tissues for zoonoses ensures that the quality of the suis-organ extracts meets modern standards of safety. The European Pharmacopoeia’s general monograph on homeopathic preparations requires that animal ingredients be free of viral and bacterial agents to avoid infecting patients. An assessment report, regularly updated, evaluates the viral safety of the hog tissue.

Because the animal tissues used in the manufacture of suis-organ medications are derived exclusively from hogs, which have no known susceptibility to spongiform encephalopathy (BSE), there is no danger of transmitting the disease. Thus the suis-organ preparations manufactured and marketed by Heel meet all the requirements of the law and the pharmacopoeia with regard to biological materials of this type.

**References**

Join in – get your experience rewarded

Outstanding scientific research deserves to be acknowledged, and rapid international distribution of the results provides a useful service to both researchers and potential consumers. In the field of homotoxicology, Biologische Heilmittel Heel GmbH offers such support in the form of the annual Hans-Heinrich Reckeweg award.

The main award
valued at € 10,000, will be given for completed scientific work of fundamental theoretical and/or practical significance in antihomotoxic medicine in the related fields of human and veterinary medicine (no research involving animal testing).

The incentive award
valued at € 5,000, will be given for results arising from clinical, case based or fundamental research in antihomotoxic medicine in the related fields of human and veterinary medicine that invite further investigation (no research involving animal testing). The prize monies are intended to be invested in ongoing research into the particular research subject.

The prize will be awarded for results arising from research carried out in a registered practice or in a laboratory. In either case the results have to be new, not published before and convincing. Homotoxicology is one of medicine’s great success stories. Originally conceived as a model to explain the outstanding efficacy of a distinct class of homeopathic medications, homotoxicology has grown into a comprehensive theory of disease.

The deadline for submissions is May 31. An independent panel of reviewers will allocate the awards. The review panel maintains the right to allocate either of the awards to any of the entries. The review panel’s decision is final.

Interested parties are welcome to ask for entry details and conditions:
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